Indicators, Predictors, and Determinants of Conflict Escalation and De-escalation

A Review of the Psychological Literature

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Abstract

This paper reviews psychological theories and quantitative research aimed at the explanation and prediction of decision-making by national and sub-national leaders. Inferences of the strategic intentions of leaders are based on the "assessment at a distance" of both their stable and changing cognitive, motivational, and emotional processes. The review evaluates profiling approaches, which develop a portrait of the subject's personality as the source of strategic predispositions, and dynamic approaches, which measure selected psychological variables activated in particular situations at specific times. Both approaches identify psychological factors correlated with tendencies toward competitive vs. cooperative behaviour in conflict situations; the dynamic approach in particular can be used to monitor real-time changes that forecast the direction of the leader's decision-making. The outbreak of war, including surprise attacks, is reliably associated with reduced complexity in the structure of information processing, increased power motivation as compared to affiliation motivation, and the leader's self-perceived ability to successfully affect large-scale events. Recent research has begun to apply these approaches to the study of terrorism. The review evaluates the methodological problems of each approach and makes suggestions as to ways of improving the clarity, precision, and predictive power of these methods.

Résumé

Cet article passe en revue les théories psychologiques et les recherches quantitatives qui visent à expliquer et à prédire les décisions que prennent les leaders nationaux et infranationaux. La déduction des intentions stratégiques des leaders se fonde sur une « évaluation à distance » de leurs processus cognitifs, motivationnels et émotionnels, aussi bien stables que changeants. Cette revue de littérature évalue des méthodes d'établissement de profil qui permettent de dresser un portrait de la personnalité du sujet en tant qu'origine des prédispositions stratégiques et des méthodes dynamiques, qui elles, mesurent diverses variables psychologiques prédéterminées, activées dans des situations particulières et à des moments précis. Ces deux méthodes identifient divers facteurs psychologiques qui sont corrélés à la tendance à adopter un comportement compétitif ou coopératif en situation conflictuelle. La méthode dynamique, plus particulièrement, peut servir à contrôler en temps réel les changements qui permettent de prévoir l'orientation de la prise de décision des leaders. Le déclenchement de la guerre, incluant les attaques surprises, est nettement associé à une diminution du niveau de complexité de la structure de traitement de l'information, à un désir accru de pouvoir par rapport au désir d'affiliation, ainsi qu'au niveau de confiance du leader en sa capacité d'influencer avec succès le cours des évènements de grande portée. Des recherches récentes ont commencé à appliquer ces méthodes à l'étude du terrorisme. Cette revue de littérature analyse les faiblesses méthodologiques de chaque méthode et propose des moyens d'en accroître la clarté, la précision et le pouvoir prédictif.

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Executive summary

Indicators, Predictors, and Determinants of Conflict Escalation and De-escalation

Peter Suedfeld; Ryan W. Cross; Michael Stewart; DRDC Toronto CR 2009072; Defence R&D Canada – Toronto; May 2009.

Introduction or background: The assessment of the personality and decisional predispositions of political leaders cannot use standard psychological instruments, because such leaders are almost never accessible to researchers. To compensate, methods of "assessment at a distance" have been, and more are being, devised. Assessment at a distance analyzes the verbal (oral or written) output of the leader, or of a leadership group, produced in the course of their normal activities. Besides solving the problem of accessibility, such methods avoid response biases due to the knowledge that one is being assessed. This literature review summarizes and evaluates quantitative research methods aimed at such assessment. The scientific literature includes measures of cognitive processes, motivational structure, belief systems, and attributional and verbal styles. These measures have been applied in two major ways: (a) to develop personality profiles of particular leaders, identifying their stable characteristics relevant to decision-making, with the aim of understanding and predicting their behaviour in a wide variety of possible situations, and (b) to monitor dynamic alterations in psychological processes as these change in response to temporary factors in specific situations at specific times, these changes in turn predicting decisional outcomes.

Results: The review identifies a number of measures that have shown reliable relationships to decisional outcomes, specifically those related to the resolution of international conflicts through either war or peaceful negotiation. The patterns most consistently shown to precede the outbreak of war are a decrease in integrative complexity (a measure of the structure of thought), high power and low affiliation imagery (measures of motive strengths), and the belief that one can control events; the opposite pattern tends to precede peaceful resolutions. However, the great majority of studies are retrospective, showing that the particular pattern was followed by the expected historical outcome; few are actually predictive of outcomes that the researcher does not know (because they have not yet happened). The review also identifies a number of problems and gaps in the literature that may detract from the usefulness of these approaches.

Significance: The ability to forecast the decisions of leaders and groups in the context of international or intergroup conflict enhances the ability to prepare one's own responses in the situation. Adversary intentions are among the most important aspects of political and military analyses. To the extent that psychological factors affecting those intentions can be identified and measured, prediction of adversary behaviour may be significantly improved.

Future plans: The next steps in the research program will evaluate alternate measurement methods, especially for cognitive complexity and motive strength. Specific ongoing conflict situations will be monitored in the course of continuously updated predictions of outcomes based on changes in or stability of the patterns of cognitive and motivational processes. In addition, the measurement system will be applied to the verbal output of non-state groups, in particular of terrorist organizations to the extent that these are available in the open literature.

Sommaire

Indicators, Predictors, and Determinants of Conflict Escalation and De-escalation

Peter Suedfeld; Ryan W. Cross; Michael Stewart; DRDC Toronto CR 2009072; R & D pour la défense Canada – Toronto; Mai 2009.

Introduction ou contexte: On ne peut pas évaluer la personnalité et les prédispositions des leaders politiques à prendre une décision au moyen des outils habituels de la psychologie parce que ces gens ne sont pratiquement jamais disponibles pour les chercheurs. Pour compenser, des méthodes dites « d'évaluation à distance » ont été conçues et plusieurs autres sont en cours de conception. « L'évaluation à distance » analyse l'expression verbale (écrite ou orale) du leader, ou du groupe d'influence, produite dans le cadre de leurs activités normales. En plus de résoudre le problème de l'accessibilité, de telles méthodes permettent également d'éviter le biais dans les réponses attribuable au fait que le sujet sait qu'il est évalué. Cette revue de littérature résume et évalue les méthodes de recherche quantitative qui poursuivent le même objectif. La littérature scientifique dispose de techniques de mesure des processus cognitifs, des structures motivationnelles, des systèmes de croyances, des types d'attribution et de l'expression verbale. Ces techniques de mesure ont été mises en application, principalement de deux manières : a) pour élaborer le profil de personnalité de certains leaders en identifiant leurs caractéristiques stables, qui entrent en ligne de compte pour la prise de décision, avec comme objectif de comprendre et de prévoir leur comportement dans une vaste gamme de situations possibles et b) dans le but de contrôler les altérations dynamiques dans les processus psychologiques, puisque les changements dans la réponse à un facteur temporaire dans des situations spécifiques et à des moments précis permettent de prédire quelles décisions seront prises.

Résultats: Cette revue de littérature relève certaines méthodes de mesure qui présentent des relations fiables en rapport avec les décisions prises, plus spécialement celles liées à la résolution de conflits internationaux, soit par la guerre, soit par la voie de la négociation pacifique. Les schémas les plus souvent observés avant le déclenchement d'une guerre sont les suivants : une baisse de la complexité intégrative (mesure de la structure de la pensée), une forte imagerie de pouvoir et une faible imagerie d'affiliation (mesure de la force des motivations), ainsi que la croyance dans le fait qu'une personne peut contrôler le cours des évènements. Le schéma opposé, quant à lui, annonce généralement une solution pacifique à un conflit. Toutefois, la vaste majorité des études sont rétrospectives et elles démontrent qu'un schéma donné débouche bel et bien sur l'événement historique attendu. Peu d'études prédisent véritablement des évènements que les chercheurs ne connaissent pas (car ils ne se sont pas encore produits). Cette revue soulève également certaines questions et fait ressortir quelques lacunes dans la littérature qui pourraient mettre en doute l'utilité de ces approches.

Importance: La capacité de prévoir les décisions de leaders et de groupes d'influence dans le cadre d'un conflit international ou intergroupe permet d'accroître la capacité à préparer sa propre réponse à une situation donnée. Ainsi, l'étude des intentions de l'adversaire constitue un des aspects les plus importants des analyses politiques et militaires. Donc, si on parvient à déterminer et à mesurer les facteurs psychologiques qui influencent ces intentions, on pourra plus facilement prévoir le comportement de l'adversaire.

Perspectives: Les prochaines étapes du programme de recherche viseront à évaluer d'autres méthodes de mesure, tout particulièrement en ce qui a trait à la complexité cognitive et à la force de la motivation. Nous suivrons de près certains conflits en cours, tout en mettant continuellement à jour les prédictions concernant les dénouements possibles en nous basant sur les changements ou la stabilité dans les schémas des processus cognitifs et motivationnels. De plus, le système de mesure servira, dans la mesure où la documentation est disponible dans la littérature, à l'analyse du discours verbal de groupes non-étatiques, plus particulièrement celui des organisations terroristes.

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1 Introduction

1.1 Goal of Review

The goals of this literature review are (a) to provide a comprehensive overview and assessment of the current state of psychological analyses of leaders and leader behaviour before, during, and after international crises and (b) to uncover testable operational methods, indicators, predictors, and determinants of micro-level adversarial intent and behaviour in conflict situations. Recommendations are made for further research or investigation and for the critical analysis of the major tenets of such research.

1.2 Review Parameters

Basic views of epistemology differ among scholars, and these differences underlie some of the more specific theoretical disagreements of any field. Here, we shall briefly consider two such basic controversies that affect the study of leader behaviour and decision making: one, between a view of the truth as external to who observes it and as at least theoretically knowable through empirical confirmation, versus the view that there is no "truth" outside the diverse interpretations of any set of phenomena or data, interpretations that are biased (if not determined) by the interpreter's cultural, sociological, and political allegiances; and the second, between an emphasis on individuals as the actors who move events versus a focus on large groups or systems that determine the course of events regardless of the individual human beings who make up the group or system.

The theoretical debate about the best approach to forecasting or prediction (Doran, 1999; Tetlock, 2005**)** has not deterred social scientists from studying such attempts or practitioners from engaging in them (e.g., Feder, 1987). Scholars studying political structures, war and peace, global governance, and interactions among states have proposed numerous theoretical constructs to explain past and current events, and to generate forecasts of future developments. Each of these theoretical views makes inferences about whether individual political actors -- the micro-level -- play a significant role, and if so, how they make decisions and exercise power. Scholars have also integrated structural or procedural factors –- the macro-level –- into these theories. From this starting point, two key observations are relevant to the purpose of this review.

The Disputed Nature of Truth

The first observation is related to how reality is viewed: i.e., constructivism and its antitheses, such as positivism. The distinction between these epistemologies is crucial to the development of the criteria applied in this review: i.e., the requirement for testable, non-speculative, data-driven methods, indicators, predictors, and determinants of individual and small-group behaviour. By definition, constructivist approaches greatly limit the development of testable rules in the study of political processes, due to the credo that "realities" (in this view, there is no *one* reality) are determined by specificities of time, place, observer, and context (Houghton, 2007). The attempt to develop quantitative tests of theories is inconsistent with the core of the constructivist viewpoint. Although constructivism does admit the universals of the natural world – e.g., gravity

causes objects to fall, all people eventually die – for the most part it disdains the quantitative analysis of non-physical phenomena.

As noted by Houghton, by the tenets of constructivism "Findings are treated as partial and contingent on time and place, and the claim that politics can ever attain a scientific status is similarly abandoned" (p. 30). However, this does not preclude a focus on the political individual as the unit of analysis; rich qualitative, context-specific analyses of political actors are common. This observation points to the distinction between quantitative and qualitative scholarship and analysis, although not all qualitative researchers accept the constructivist line (cf. Marvick & Glad, 2006; Post, 2007).

For the purposes of this review, it is the reliance on or dismissal of quantitative data that is operationally important, rather than the overarching differences between constructivist and positivist orientations. One *caveat* must be borne in mind. Although the qualitative-quantitative dichotomy – or rather, dimension – often coincides with that between idiographic and nomothetic emphases, this is not necessarily the case in the literature we are reviewing. Profiles of leader personality derived from a combination of quantitative scales can be just as focused on the individual, just as idiographic in orientation, as analyses framed as word pictures built upon thoughtful, theory-guided readings of the leader's biography.

The Role of Individual Personalities

The second key comment concerns the influence or role of the individual in the political process versus that of the political structure and institutions, the structure versus agent debate in political science. "Structures" comprise the governments, institutions, organizations, rules, norms, laws, and guiding principles of political life. The "agent" in this dichotomy is the individual participant within those structures. For the most part, attempts to engage in a debate on "structure versus agent" quickly reach an impasse that data cannot resolve. Philosophers have long argued whether "great men" make history or history makes some men great, the enduring debate between followers of, for example, Thomas Carlyle versus Leo Tolstoy.

Social scientists typically do not engage on such abstract levels, but a similar split exists on just how important the individual characteristics of political figures are in the unfolding of important events. Many political scientists, sociologists, and historians base their analyses on structural components listed above, as well types of violence, infant mortality rates, levels of democracy, international organization membership, and so on.

These systemic factors obviously have significant impact on political outcomes (hence the structure side of the agent-structure debate); but there is a lack of research that would connect the literature with the focus of the current review, research on the individual level, the domain of most political psychologists. Again, this seems a false dichotomy: although scholars may choose to focus their attention on one component or the other, events are influenced by how the two interact. Policy-makers themselves have taken such a nuanced view –- or are less concerned with the structure of the environment than with who functions in it and how. Henry Kissinger once noted, "As a professor, I tended to think of history as run by impersonal forces. But when you see it in practice, you see the difference personalities make" (quoted in Byman & Pollack, 2001, p. 108). Bynam and Pollack acknowledge that although political scientists tend to focus their research on systemic and other macro-level factors, they do "admit to the importance of personal idiosyncrasies and human error in determining the course of international relations" (p. 108).

These two pairs of divergent orientations –- the quantitative versus qualitative distinction and the agent-structure (micro versus macro) debate -– are summarized in Table 1.

Table 1: Levels and Types of Analysis.

	Macro-Level:	*Micro-Level:*
Quantitative:	A: Quantitative: Macro-Level	B: Quantitative: Micro-Level
Qualitative:	C: Qualitative : Macro-Level	D: Qualitative : Micro-Level

Psychologists, unlike other social scientists, are generally focused on individual or small group behaviour, and the concentration on how such actors affect (and are affected by) macro-scale events is a central and widely accepted component of political psychology. Thus, Part II of this review addresses in some detail the most prominent psychology-based theories and research programs concerned with such issues.

One other problem, shared by political science and political psychology, is the choice of an optimal time-line for the testing of predictions. Schrodt (2002) argues that longer-term trends in the "relationship between predictive accuracy and time horizon" are easier to model: "finely-grained short-term prediction is nearly impossible, but longer-term trends can be modeled. We can forecast tides but not individual waves." He then relates this to the requirements of the policy community, stating: "in my experience the policy community is actually more interested in long-term predictions than in short term. Six months is the modal value for what is considered a 'useful' time horizon because it is enough time to do something: food can be shipped, troops mobilized, diplomatic initiatives undertaken. With a horizon of one day—or even one month—all you can do is stand by and watch the train wreck, perhaps with a bit of extra time to figure out how to explain that it wasn't your fault. Knowing the tides is sufficient for most of the policy community" (p. 11).

As this review will show, a six-month horizon is not beyond the capacity of the methods summarized here to produce quite reliable predictions. What is predicted is not fine-grained details, but major turning points such as the fate of the leader or the resolution of an international crisis by war as opposed to negotiation. In general, these methods cannot predict what will happen tomorrow, although in some cases they can predict a month ahead.

Claiming to predict events far in the future, or long-term trends, makes an empirical test difficult and also increases the probability that the forecasters themselves as well as the audience may forget what was predicted in the first place. It also introduces more possible confounds and extraneous variables that may decrease or increase the "accuracy" of the prediction – even though

the outcome may be determined by factors totally unknown to, or not considered by, the forecaster. For the most part, the researchers cited here have not attempted to predict how a leader will behave in future years, although those who measure stable personality traits and their relation to policy preferences might argue that such predictions are possible.

2 Theories and Research

2.1 Introduction to Part 2

The question of how individual differences in personality affect political decision-making has exercised thinkers for centuries, and empirical researchers for over half a century. The analysis of foreign leaders for the purpose of informing one's national foreign policy has been in use for some time. According to Post (2006b), the practice in the U.S. can be traced at least as far back as World War II, when the U.S. government authorized psychological analyses of Adolf Hitler, based on what was known about his early life and current behaviour, in an attempt to find out what "made him tick." Presumably, the intention at the time was to uncover Hitler's psychological weaknesses and use these to influence him, though little is known about kind of impact that such profiles actually had on US policy. However, later contributions have had notable influence. Former President Jimmy Carter, for instance, used (and gave special recognition to) such personality profiles in preparation for the Camp David Summit (Post, 2006b, p. 59). His support for this enterprise is reflected in a statement that he would not have altered anything in the profiles after having met the individuals described therein. An excellent brief review of this literature is provided in Marvick and Glad (2006).

Acknowledgment of this kind has given credence to the view that assessment at a distance can develop accurate and helpful pictures of personality factors that in turn help in explaining and forecasting political decisions. This is a view that many researchers have maintained for some time (e.g., Hermann et al., 2001; Winter, 2003b); and as will become clear in the course of this review, they are supported by a wealth of empirical evidence. Indeed, the evidence is so strong that the question has moved from "Does personality exert an important influence of foreign policy?" to "How does personality exert its effect?"

In attempting to understand the relationship between personality characteristics and behavioural outcomes, researchers face two inherent difficulties. The first is that personality does not operate in a vacuum; it always exerts its effects in a social and physical context. This makes it difficult to disaggregate the role of personality from that of situational influences. The second is that the effect of personality characteristics on decision-making may often be subtle and indirect to the point that it may be unrecognizable as having been caused chiefly by the qualities specific to the individual. This means that the role of personality may be unclear because of the distance between its influence and the ultimate outcomes resulting from its influence.

Despite its history of successes, the research has been hampered by the inaccessibility of most high-level leaders to psychologists, making it almost impossible to use such traditional methods as interviews and questionnaires except with lower-ranking individuals (diRenzo, 1967**;** Post, 2007). To compensate, two major methods have been in wide use. One is to use *simulations* or scenarios, in which participants – often, university students -- in experimentally controlled settings are proxies for real leaders. This procedure also allows the researcher to administer direct measures of personality, usually via psychometric instruments.

Although the simulation procedure has produced many interesting results of relevance to political psychology (see, e.g., Schroder, Driver, & Streufert, 1967), there are two facts that lead us to exclude it from this review. One is that the decision makers are not actual political leaders; the other is that, no matter how well designed and emotionally involving the simulation scenario may

be, the stakes hanging on a decision are at best trivial. Extrapolation to real leaders making decisions about peace or war for the world is therefore risky (Mintz, Redd, & Vedlitz, 2006).

The second approach, the topic of this review, sacrifices the experimental rigour of simulations to gain complete ecological validity. A variety of ways have been designed to extract measures of psychological characteristics from leaders' speeches and writings: so-called *assessment at a distance*. Such assessments are then used to explain why these leaders made the decisions that they did in historical events, and in some cases, to predict what decisions they are likely to make in future ones. In the absence of experimental manipulation of independent variables, the relationships remain correlational, with causal explanations necessarily held in abeyance or at most advanced tentatively.

2.2 Assessment at a Distance

Although political personality researchers may not have direct access to political decision-makers, they do have access to a wealth of media coverage that does not exist for the average person. This leaves an opening for leaders' speeches, interview responses, and written statements to be analyzed in detail. To measure personality from verbal content, assessment at a distance researchers use content analysis of spoken or written materials to infer characteristics of the political sources who produced those materials, and then use these inferences to explain aspects of policy behaviour.

There are three basic approaches to content analysis, and all three have been used extensively in political psychology. One is the *holistic, qualitative interpretation* of the material, often based on a particular psychological theory. Frequently, this takes the form of selecting particular aspects of the focal person's life and/or his speeches and writings, and interpreting the selected material in light of some version of psychodynamic/psychoanalytic theory (see Marvick & Glad, 2006). This specific combination of methods is foundational to an entire subfield of political psychology, usually referred to as psychohistory and psychobiography. As the parameters of this literature review are limited to quantitative methods, research using this strategy will not be covered here.

The other two approaches to content analysis both work with quantitative data. One interprets *word or phrase frequency*, typically by creating a computerized dictionary of words and phrases devised to tap relevant characteristics. Verbatim text produced by the object of the research is entered into the computer, which then generates a summation of how often the dictionary terms appear in the text. Inferences about the individual's personality or intentions can be drawn from, e.g., the number of war-related words and phrases compared to less aggressive ones.

The other quantitative method is *thematic content analysis* (TCA; Smith, 1992). TCA is actually a class of methods, each of which uses a detailed scoring manual that is followed by researchers trained to a high level of interscorer reliability to assess the content and structure of oral or written materials. Although the scoring unit differs across variables, from the paragraph to 1,000-word chunks, no TCA procedure is based purely on word counting. Rather, themes as defined by the scoring manual are assessed, essentially regardless of the specific wording. Scoring manuals are available for cognitive, affective, motivational, interpersonal, and other variables, including basic values, coping strategies, psychological distance, trust, and intimacy. Many of the existing manuals are based on criteria originally developed for face-to-face or questionnaire measures, and manuals for more variables are developed as researchers need to study those variables without

having access to the population of interest (Smith, 1992; Suedfeld, 2006; Suedfeld, Soriano, McMurtry, et al., 2005).

Quantitative methods of content analysis have a number of methodological strengths not shared by qualitative methods. These include random sampling from extensive databases or the use of entire smaller ones, the use of clearly defined scoring criteria, the training of scorers to a given level of interscorer reliability, and the use of inferential statistics and power calculations. These characteristics allow the relationship between personality characteristics and policy behaviours to be defined and tested in an objective and replicable fashion, avoiding the biases that can compromise qualitative methods. As a result, one can more rigorously assess whether such variables explain or predict leader behaviour. The predictive accuracy of quantitative content analysis, especially in regard to aggressive versus co-operative decisions, is a central focus of this portion of the review.

The ability of content analysis (or any other method of assessment at a distance) to predict political behaviour depends on knowing which variables are reliably associated with which types of political behaviour. For example, our research under the current DRDC contract is primarily oriented toward exploring which variables are systematically related to the use of aggressive or co-operative strategies. If there is no robust evidence of a connection between specific psychological variables and policy behaviour, then clearly any further attempt to predict one from the other is futile.

All of the research reviewed here is directed at establishing links between psychological variables and policy behaviour. As will become clear, however, answering the question of how useful these variables are for predictive purposes is more problematic because much of the research was not designed to offer predictions. Although some studies do attempt to predict decision and strategy choices, most of the research has sought only to explain past events. Personality-behaviour links found in those events are then inferred to operate in current and future events as well, the inference justifying assumed predictive utility. One salient reason for this strategy is the difficulty referred to above, the identification of an appropriate time span for closing any predictive conclusion. If a set of data is used to forecast, e.g., that an international confrontation will (or will not) result in war, how long do the researchers have to wait to decide whether the prediction was correct?

On the other hand, we may ask, what is the use of research that "predicts" – in reality, a more appropriate word would be postdicts or retrodicts – past events? It may seem hopeless to expect clues about predictive utility from such studies. But this view is too pessimistic: if a particular pattern of speech or writing can be shown to have consistently preceded particular kinds of decision in the past, it seems reasonable to infer that it may do so in the future. Through inductive reasoning, a set of testable hypotheses can be generated. Of course, the logical and indispensable next step is to test those hypotheses in a truly predictive situation – when the researcher again faces the time-line issue.

This review attempts to answer questions of predictive utility in precisely this way, using successful explanations for past decision-making as a proxy for measuring potential predictive success. At the same time, even though a study may have been designed only to explore a feasible explanation for an event, we evaluate the approach and variables with their possible predictive utility in mind.

Our criticisms based on the potential of a research program to be used for predictive purposes should not be confused with criticism of the research in terms of the purpose for which it was actually intended (i.e., explanation rather than prediction). Some of the studies discussed here have demonstrated validity in relating antecedent psychological variables to their policy consequences, a valuable contribution. However, these same studies may not appear well-suited for predictive purposes. Where this is the case, the reasons for the criticism will be made clear.

This part of the review is organized in two sections. The first gives a brief description of the main psychological variables studied so far in the context of the overall project; the second deals with the two questions asked above: which psychological variables are associated with aggressive and co-operative behaviour, and how might these variables be studied so as to be useful in event forecasting?

The second section itself is also broken into two parts. This is because, broadly speaking, there have been two overarching approaches – profiling and dynamic -- to studying the relationship between personality characteristics and policy behaviour. Both approaches use psychological variables, albeit in different ways, to explain foreign policy decisions. By extension, both have the potential to assist in predicting such decisions.

Profiling

The profiling approach models a leader's set of intrinsic qualities – i.e., personality traits -- as one of many factors that influence the determination of foreign policy. Measurements are made on a number of dimensions and then compared to those of other leaders. The profile itself is a combination of different qualities that together can give insight into a leader's overall orientation to decision-making as well as to other aspects of life. Because personality traits in adulthood are considered to be permanent and unchanging, at least in the absence of cataclysmic experiences such as brain injury, once a profile has been established, it is theoretically quite stable. The profile of traits is then believed to lead to equally stable response tendencies and policy preferences. Predictions can be made using this approach by projecting how a leader with a particular profile is likely to respond to actual or predicted sets of circumstances. Hermann's (2006) Leadership Trait Analysis technique is the prototypical example of this approach.

Dynamic

In contrast, the dynamic approach considers the leader's decisional tendency as being a function of an interaction between his or her[*] personality characteristics or traits and how the expression of those traits is affected by different situational factors, both internal (e.g., fatigue) and external (e.g., time pressure). Thus, personality expression is viewed more as a snapshot in time and not as a stable entity, analogously to Charles Spielberger's analysis of state and trait anxiety (Spielberger, 1966). In the dynamic approach, the focus of examination is switched from differences between individuals to variability within individuals across situations. To complicate matters somewhat, it is also possible to compare different individuals in terms of their variable reactions to particular circumstances.

Significant shifts in the mental (cognitive, emotional, etc.) state of the leader are theorized to lead to changes in the expression of personality traits, and these combined changes hypothetically affect policy behaviour. The cause of these changes can be the leader's response to the evolving

[*] This clumsy phrasing will generally be avoided in the rest of the review.

situation, an outcome of a learning experience, or the individual's intrinsic instability – or, phrased more positively, his intrinsic flexibility. From this standpoint, predictions can be made by monitoring the changes and interpreting them within the context in which they are measured.

These approaches are not mutually exclusive and, as described below, some studies have looked at both individual differences and changes within individuals. There is no theoretical reason not to do so. However, the profiling and dynamic approaches use personality and situational variables differently. This has implications when considering frameworks for prediction. It should be noted that the personality variables themselves are assessed using very similar criteria in both cases. Therefore, the review first discusses the variables and then the way in which each approach makes use of these variables in the context of explaining and sometimes predicting foreign policy decisions, especially the choice between negotiation and war.

The purpose of the sections that follow is to examine the most commonly studied variables relevant to this review. The overview is not exhaustive, as new and creative ways of using content analysis are continuously being developed (e.g., Mumford et al., 2008). Consequently, the omission of studies related to any particular variable does not imply criticism or dismissal. However, the variables described here are relatively well represented in the literature, have been tested on many occasions, and form a core group. As will be seen, some of them share certain similarities with others; where this is the case, the related variables have been clustered together under a common sub-heading.

2.2.1.1 Cognitive Process Variables

Cognitive variables, as described here, measure the manner in which an individual processes information. Such measures are intended to differentiate between those who take into account different viewpoints and are nuanced in their thinking versus those who think in simple black and white terms, between rigid and flexible thinking, extensive versus limited information search, etc.

Two variables that represent this characteristic and that have been measured at a distance by political psychology researchers are conceptual complexity (Hermann, 2006) and integrative complexity (Suedfeld, Tetlock, & Streufert, 1992). Both are descendants of cognitive style theories that proliferated in the 1960s and, more specifically, of conceptual complexity theory (Schroder, Driver, & Streufert, 1967). Although both of the current versions focus on the same quality, they formulate and study it in two entirely different ways.

2.2.1.2 Conceptual complexity

As studied by Margaret Hermann and her colleagues, conceptual complexity is measured by the number of words in the chosen material that suggest complex – nuanced, open-ended -- thinking (e.g., "approximately," "possibility"). This number is divided by the total number of words that suggest either complex or simple thinking, the latter being scored from such words as "absolutely" and "certainly" (Hermann, 2006). Which words count as simple or complex is predetermined by the researchers and entered into the computerized dictionary, rather than being judged within a specific context. As an individual uses more complex words and fewer simple words, his conceptual complexity score increases and is inferred to be a measure of complex

information processing. Hermann's orientation fits our definition of the profiling approach, treating conceptual complexity as a trait variable.

2.2.1.3 Integrative complexity

The measurement of integrative complexity (IC) contrasts with Hermann's word counting approach, as well as with the conceptual orientation of her work on this factor. IC research belongs to the category of dynamic approaches, and treats complexity as a state variable. It also differs in method: unlike the score given for conceptual complexity, IC scores depend upon the ideas articulated in the material rather than the frequency with which certain words appear. The score is assigned by highly trained scorers (whose scoring has reached a high level of agreement with experts) using a detailed set of guidelines (Baker-Brown, et al., 1992). In this system, the scorer decides whether a passage (using the paragraph as the basic scorable unit) demonstrates recognition of several aspects of, or alternative legitimate attitudes toward, the topic (*differentiation*) and, if so, whether there is also evidence of the recognition of interrelationships among those differentiated characteristics (*integration*). Obviously, differentiation is a prerequisite for integration.

IC is a measure of thought structure rather than content. Therefore, although no score is ever assigned on the basis of specific words or phrases, some such aspects of content are noted to alert the scorer that some words can indicate the *likelihood* of a particular score ("content flags"). No such flags are available for scoring integration. Possible scores, ranging from 1 to 7, are finally averaged for the entire scored material, which may be a speech, a government communication, a letter, etc. Thus, the IC construct goes beyond a purely linear conception of complexity to the inclusion of two different components or aspects, and its scoring methodology goes beyond counting the frequency of pre-selected words.

2.2.2 Motives

A motive is a goal or a state of affairs that a person would like to come to fruition (Winter et al., 1998). Thus, if the motive of a politician in running for office is to attain a position where he can influence the course of events or the fate of other people, "power" motivation may be invoked to explain his decision. There can be as many motives as there are justifiable (or excusable, at least to oneself) reasons for doing things –- in effect, an infinite set. However, three motives that are said to underlie much of political behaviour, and that therefore are prominent in the literature reviewed here, are (1) the power motive, (2) the affiliation motive, and (3) the achievement motive. Originally designated as the needs for Power (nPow), affiliation (nAff), and achievement (nAch), these were at first scored from responses to the Thematic Apperception Test, a projective test that requires subjects to generate stories based on each of a series of pictures. Later, motive imagery came to be scored from a variety of other verbal and nonverbal materials as well (e.g., McClelland, 1961). As with cognitive processing variables, motives can now be inferred and measured at a distance, using content analysis.

The Power Motive

Two variables that measure the power motive are power motivation or power imagery (Winter, 1973; Winter & Stewart, 1977) and need for power (Hermann, 1980a, 2006). Both constructs are

scored according to the criteria developed by Winter (1973). A statement is scored as illustrating power imagery or need for power if it demonstrates a concern for impact, influence, or control over a situation or another person. For Winter (2007), the total score for power imagery assigned to a source is the number of images meeting these criteria per thousand words of material. Hermann scores need for power using the same criteria, but (as in the case of her measure of cognitive complexity) at the level of word frequency. Thus, for Hermann (2006) it is the percentage of verbs that meet the criteria for power imagery (persuade, compel, suggest) out of the total number of verbs in the material that determines the "need for power" score.

The Affiliation Motive.

Two analogous variables exist for measuring the affiliation motive: affiliation motivation or affiliation imagery (Winter, 2006) and need for affiliation (Hermann, 1980a). Again, both variables are derived from a common definition (Atkinson, 1958) and scoring criteria, and are therefore conceptually equivalent. Passages (Winter, 2006) or single verbs (Hermann, 1980a) are scored as instances of affiliation motivation if they demonstrate a concern for having friendly relationships. This can be in terms of offering friendship, maintaining already existing friendships, or reconciliation after an instance or period of cool relations. The calculation of scores is also identical to Winter's and Hermann's respective methods of scoring for power imagery and need for power.

The Achievement Motive

There is only one current method (see Winter 2006, 2007) for scoring the achievement motive in running text. Achievement motive imagery is scored in precisely the same way as affiliation and power imagery. A statement is considered to demonstrate the achievement motive if it refers to some kind of aspiration. This can be the desire to do better than others or to outdo one's own previous best, a concern for producing outcomes of a very high standard or unique novelty, or some other suggestion of innovativeness or accomplishment.

This triad of motives represents the three motivational variables most frequently studied in political psychology; another, used by Hermann, is a composite. Her "motivation for seeking office" is a merged version of need for achievement, which underlies a leader's task-focused behaviour, and need for affiliation, the basis of relationship-focused behavior. These two forces, frequently defined as the bases of the leader role (Fiedler, 1981), are conceptualized by Hermann (2006) as working in opposition to each other to produce the score. Where variables such as this arise in the review of studies in the next section, they will be explained at that point rather than in this section.

Other motives have also been measured at a distance. These are not described in detail here because of their limited research usage; the interested reader can find descriptions of several in Smith (1992). Some are unique; others are related to one or more other, cognitive/motivational measures (e.g., need for cognition, need to avoid uncertainty) or to one or more of the "Big Three" motivational ones.

2.2.3 Verbal Styles

Most of the early contributions to psychobiography and the understanding of leaders at a distance were from the fields of psychiatry and clinical psychology (see Post, 2006a). It should be no

surprise, then, that some professionals in these fields, not content with traditional qualitative methods, have adapted their clinical work to identify quantifiable criteria for measuring aspects of speech.

A major set of such criteria, which can be referred to generally as verbal style variables, has been developed and applied by Walter Weintraub (1981, 2006). These variables seek to differentiate people on the basis of their idiosyncratic use of verbal structures. The presumed advantage of such analyses is that verbal structures, like complexity and motive imagery, are less likely than semantic content to be consciously manipulated in the service of impression management. According to Weintraub, people can be identified as being partial to one style over another, which becomes apparent when their utterances are compared to others in the population. This allows inference as to their personality or state of mind.

A number of personality dimensions can be inferred in this way (Weintraub, 2006, p. 143-147):

- A large number of *qualifiers* (words such as "maybe," "might") appearing in the text may indicate indecisiveness, or an unwillingness to commit to a point of view.
- The use of *retractors* (e.g., "however," "nevertheless"), which reverse previously uttered statements, is considered to be a sign of impulsivity. Prevalent users are inferred to have jumped to a conclusion or answer that they then had to modify or retract.
- Using the pronoun "I" rather than "we" is said to indicate a need to be seen as independent (one's own person), versus as a spokesman for some group or cause. The use of "me" is alleged to indicate passivity: i.e., that things are being done to the person beyond his control, such as being pressured, manipulated, or victimized.
- Using an impersonal form (e.g., "one does this or that," where the subject is not specified), when it would be feasible to make an identifiable reference, is known as an *impersonal reference*. If a source uses too many of these, he can come across as psychologically detached. The opposite tendency, a high number of personal rather than impersonal references, may reflect preoccupation with the moment.
- "Oppositional" behaviour or stubbornness is indicated by a liberal use of *negatives* (e.g., "not," "never," "nothing").
- The use of *explainers* (e.g., "because," "therefore," "since") suggests habitual rationalization, where views are justified, explained, or apologized for. People who use these to a great degree appear to be hyper-rationalizers, while those who use very few may appear entrenched or didactic because they see no need explain their view to others.
- Those who habitually attribute emotions or evaluations to themselves (e.g., saying that they "like" something) or make other *expressions of feeling* convey warmth. A habitual lack of use is indicative of aloofness or coolness.
- Adverbs that accentuate or add forcefulness to a statement are called *adverbial intensifiers* (e.g., "very," "really"). Use of such intensifiers adds a degree of drama to statements. People who use very few may appear boring.
- *Direct references* occur when the person speaking refers directly to the person he is talking to. References are also scored as direct if the person refers to aspects of the surroundings or the process of talking itself. The use of such direct references is indicative of friendliness and engaging behaviour; those who make few references are seen as shy and perhaps even aloof.

Weintraub (2006) scores these variables in terms of the number of instances per 1000 words, much like Winter's method for scoring motive imagery. The meaningfulness of the scores can be based on comparisons with texts from other sources, or by looking at changes in their frequency. The chosen approach is a function of whether the researcher is using the profiling or dynamic approach. The meaningfulness of the variables themselves is sometimes only apparent in the context of other variables; for example, the frequent use of retractors and negatives together indicates impulsiveness. Thus, it is sometimes the combination of variables rather than variables in isolation that guides inferences about the leader's personality.

2.2.4 Explanatory Style

Another approach derived from clinical practice is the analysis of explanatory styles (Satterfield, 1998; Satterfield & Seligman, 1994,). By observing the way people spontaneously explain events, it can be ascertained whether they tend to see the causes of positive or negative events as being mainly internal or external (caused by one's own actions or by outside forces), stable or unstable (consistent/chronic or temporary/brief) and global or specific (resulting from wide-ranging or intrinsic aspects of oneself or nation, or alternatively having emerged from domain-specific, limited aspects of one's self or nation). Those who view positive events as being caused by internal, stable, and global factors, and negative events as caused by external, unstable, and specific factors, are said to have an inherently *optimistic* explanatory style. Those who have the reverse pattern are classified as *pessimistic*. Previous evidence, according to Satterfield and Seligman (1994), has shown that those who are pessimistic tend to be passive, indecisive, and poor at problem solving, therefore making this variable highly relevant to decision-making in leaders. Optimistic explanatory style is also associated with better mental and physical health and with occupational success. In the clinical or experimental setting, explanatory style is measured by responses to a set of scenarios.

For archival data, such as the speeches and interview responses of political leaders, explanatory style is scored using the CAVE technique (Content Analysis of Verbatim Explanations, Schulman *et al*., 1989). The CAVE technique requires scorers to rate explanations of positive or negative events made by the source person on the model's three dimensions of internality, stability and globality. The score on these three dimensions is then calculated for positive and negative events separately, thereby giving a composite negative score (CN) for explanatory style for negative events and a composite positive score (CP) for positive events. A final calculation of CP-CN (referred to as the CPCN score) gives an overall rating of how optimistic or pessimistic the individual's explanatory style is (Satterfield & Seligman, 1998). How these measurements have functioned in the prediction of leader behaviour is discussed in the next section.

2.2.5 Beliefs

Beliefs cover an enormous range of psychological constructs. Indeed, people have the potential to believe anything in any domain. The beliefs referred to here are the beliefs a leader has about the political universe. Using the content analysis of speeches and responses to questions, a number of researchers have posited variables that assign scores to the key belief dimensions of political leaders.

2.2.6 Operational Code

The most thorough attempt to capture the *complete* belief system of a leader has been formulated by Walker, Schafer and Young (1998). Expanding on the more qualitative foundations of Leites (1951), George (1969), and Hosti (1970), these researchers have operationalized the belief system or *operational code* of a leader through the systematic analysis of verbs in their context – the Verbs in Context System (VICS). Although qualitative versions of operational code evaluations are still in use (e.g., Dyson, 2001) this quantitative version is now dominant.

There are two chief dimensions to a leader's operational code (Walker, Schafer & Young, 2006). The first dimension is the set of philosophical beliefs held by the leader. These are the leader's diagnostic propensities –- his attributional tendencies when he attempts to make sense of the actions of other leaders, groups, or nations. The second dimension is the set of instrumental beliefs held by a leader. These are the leader's action propensities -– his preference for using a particular strategy (e.g., co-operation versus conflict) over another.

To infer these beliefs from written or transcribed texts, the VICS systematically analyzes each clause in the source material, one clause at a time. If the subject accompanying the verb is oneself (or one's nation), the clause is categorized as attributed to "self." "Self" clauses form the basis of instrumental beliefs, because they express what the speaker or the speaker's nation has done, is doing, or will be doing. On the other hand, if the clause is attributed to another nation or actor (i.e., the subject of the sentence is another nation) this is categorized as "other." Such clauses form the basis for measuring philosophical beliefs, because they represent statements about other countries and world actors and thus beliefs about the nature of the political universe.

In addition to the two main strands of belief, there are also several sub-divisions within each strand, indexing different aspects of that dimension. These are labeled P-1 to P-5 for the philosophical dimension and I-1 to I-5 for the instrumental dimension. The three most important of these individual subdivisions are called *master beliefs*, and are marked by the capital letter "M" in the following list.

[M] P-1: Essential *nature of the world* (i.e., whether the world is, at its essence, one of conflict or one of harmony).

P-2: *Optimism* regarding one's ability to realize goals (intensity of how conflict-prone the world is). Is the world merely threatening (more words than deeds), or is it truly treacherous (countries seek conflict often)?

P-3: *Predictability* of the political future measures how variable other countries are in their strategies -- the more variable, the less predictable.

[M] P-4: *Ability to control* historical development, conceptually similar to Hermann's (2006) theorized belief in the ability to control events, versus other nations' ability to determine events.

P-5: The role played by *chance*.

[M] I-1: Approach to goals or *direction of strategy* (use of force version diplomacy and co-operation).

I-2: Pursuit of goals or *Intensity of tactics* used (e.g., resisting, threatening, or actually punishing other nations)

I-3: *Risk orientation* or the variety of tactics used across situations. Low variety implies a high acceptance of risk, because the leader strides ahead without much regard for context or feedback.

I-4: *Timing/flexibility of tactics* or the propensity to shift tactics in two respects:

The propensity to shift from co-operation to conflict and vice-versa.

The propensity to shift from words (e.g., verbal opposition and threats) to deeds (e.g., actions taken, such as punishment and reward).

I-5: *Exercise of power* is a measure of the degree to which a leader favours each of six available strategies: rewarding, promising, appealing for support, opposing, threatening, or punishing. The proportion of each of these tactics, as verbally expressed and attributed to oneself or one's group, forms the index for this division.

The master beliefs are the basic foundation for all others. For example, the philosophical belief P-1 is calculated as the proportion of negative versus positive attributions made for countries other than one's own. This gives an index of how conflictful or peaceful the speaker sees the world. P-3 then extends this by indexing how variable these attributions are in intensity, as an indirect measure of the leader's perception of the predictability of the world. P-1 is needed to calculate P-3, but P-3 is not necessary for calculating P-1, which is therefore designated a Master belief.

The operational code method of measuring an actor's belief system is complex and multifaceted, while at the same time somewhat elegant in its simplicity of construction, based mainly on only three variables. It was quantified relatively recently, but it has already been used in a number of studies (reviewed in the next section).

2.2.7 Other Variables

A number of other variables have been scored from archived texts relevant to political processes, but the majority have not yet been used in sufficient research to be discussed here. Below, we note a few exceptions.

Hermann (2006) measures people's belief in their *ability to control events*, thereby gauging how strongly they believe that they can influence what will happen. As with her motive variables, she does this by focusing on verb usage. When verbs indicate that action has been taken and the source takes responsibility for that action, this is coded as demonstrating an underlying belief that their actions matter in the international sphere. As with previous measures, the percentage of verbs meeting these criteria forms an index for the degree of belief.

Three other variables are worth mentioning before we move on from considering general tools for assessment at a distance to the second part of this section, the prediction of leader decisions. These variables are not easily categorized according to the previous subsections; they are belief-related elements in Hermann's (2006) approach to leadership orientation that feature prominently in her research. These variables are in-group bias, self-confidence, and distrust of others (Hermann, 2006).

In-group bias, conceptually related to such concepts as authoritarianism (Adorno, Frenkel-Brunswick, Levinson, & Sanford, 1950) and social dominance orientation (Pratto, Sidanius, Stallworth, & Malle, 1994), is a measure of the degree to which a leader believes his nation (or other social group to which he belongs) to be crucially important, morally good, and superior to others. Leaders with that bias tend to make sense of problems along group lines and favour their group considerably, seeing it as best. Hermann (2006) indexes this tendency by looking at leaders' references to their own group and whether these are favourable (i.e., accompanied by positive modifiers) and whether they indicate that the group is sacrosanct (i.e., it must remain separated or protected).

Self-confidence refers to the degree to which persons believe that they can cope with the challenges facing them. Those who are high in self-confidence tend to (1) be more forthright in taking action instead of merely being a passive actor in the world, (2) see themselves as the subject of praise, and (3) see themselves as holding a position of worth. Hermann (2006) quantifies this variable as the percentage of instances where a leader makes any statement fitting such criteria and in which personal pronouns such as "I" or "me" are used.

Distrust of others is a measure of how much faith the leader has in the actions of other world actors. To get an indication of this, Hermann (2006) examines all references to other actors (nations, social groups, other leaders) and codes these references as displaying elements of distrust if (1) the leader displays suspiciousness toward that group or (2) views the group as having acted harmfully toward his own group or cause. The higher the proportion of references to other groups that fit these criteria, the higher the index of distrust assigned to the leader.

2.2.8 Summary of Section 2.2

This section of the review has examined a number of variables derived from psychological approaches to individual differences. These include variables measuring a person's cognitive processing, beliefs, and motives. Despite their diversity, however, they all have something important in common. Because they all employ content-analysis methodologies in naturally occurring language, they all make inferences about the individual from available (for most researchers, *publicly* available) verbal materials. With no direct access to leaders, one cannot know with certainty what and how they are really thinking and feeling. The validity of these variables therefore depends on (1) whether their measurement operations are valid, (2) whether the scored material is a representative sample of the source's utterances, and (3) whether the

measurement technique has the capacity to cut through misleading signals that a leader might disseminate. These particular variables have been influential precisely because they have demonstrated such capacities to a significant extent.

2.3 Predicting Leader's Decisions

The studies reviewed in the previous section have applied the variables discussed so far to post hoc explanations based on identifying psychological states that reliably precede specific outcomes (postdiction or retrodiction), and occasionally to actual forecasting. They have had some, but not total, success. As Winter (2005) asserts, with respect to studying leadership at a distance: "We cannot know everything, but we can often know something" (p. 579). It is to these instances where "something" is known, and especially where that "something" has implications for the prediction of conflict versus peace, that we now turn.

2.3.1 Introduction to Section 2.3

Having completed an overview of variables in use by those who study leaders at a distance, we now proceed to evaluate how useful these variables have been for explaining or (by extension) making predictions about leaders' decisions, especially in matters of conflict versus co-operation. As stated earlier, there are broadly speaking two approaches to utilizing these variables. The first approach, described previously as the *profiling approach*, can make predictions by inferring the intrinsic personal qualities of a leader from his spoken or written words and then making further inferences about how such qualities will manifest themselves given particular situations. The second approach, referred to here as the *dynamic approach*, uses the same kind of verbal materials, but focuses on how they vary across time or situations, inferring the source's cognitive, emotional, motivational, and attitudinal states from such changes and basing predictions of behaviour on these inferences. Shifts in verbal behaviour, it is contended, precede shifts in policy.

One way to test these approaches is to do so retrospectively: to collect and score documents available from the past and let the outcome or dependent variable be the course of history that followed (as suggested by Suedfeld & Rank, 1976). Because of the difficulty of doing real-time studies, this is how the majority of hypotheses have been tested in the material reviewed here, although there are some notable exceptions where actual predictions are made (e.g., Winter et al., 1991a). The resulting evidence using these approaches is evaluated in the first two parts of this section. The third part presents an overall comparison of the two approaches as well as a summary of their relative pros and cons.

2.3.2 Profiling Approaches

There is some degree of variety with regard to the use of profiling techniques amongst those studying leaders from a distance. However, the common assumption underlying all profiling approaches is that individuals involved in decision-making bring different stable qualities to the decision-making process and that these qualities affect both their interpretation of the problems they face and their choice of strategies and solutions (Hermann & Hagan, 1998, Hermann *et al.*, 2001). Thus, in order to predict what decisions a leader is likely to make, his or her personality characteristics must first be measured and understood through the development of a leader profile in comparison to other leader profiles.

2.3.2.1 Comparing Leader Profiles

In order to create such a profile, there is a general procedure (developed chiefly by Hermann, 1980a, 2006) that most researchers follow. This involves:

1. Measuring aspects of leaders' responses to questions at various time points, generating scores based on variables such as those described in the previous section;

2. Comparing these measurements to those of a number of other leaders, establishing where a particular leader fits relative to others;

3. Using the leaders' relative scores to determine their profile or "leadership orientation."

Once a profile is formed using this method, the usefulness of the profiles or characteristics can then be tested by examining their association with policy behaviour -- i.e., asking whether the profile reliably predicts different kinds of foreign policy behaviour.

There are two ways one can do this. The first is to examine whether the different orientations developed are connected to distinct foreign policy behaviours across a number of leaders. In other words, if leaders who have similar profiles also behave similarly, this suggests that the profile is capturing some important dimension of political personality. The second way is to ask how useful the profile is in making predictions for a specific leader. Stated differently, if the previously established profile of a leader anticipates his actual behaviour, this suggests that comparing the profile of an individual to those of counterparts could have potential use for predicting the relative probability of specific actions by each of those leaders.

As will become apparent, at the current state of the research the evidence for the usefulness of profiles compared across leaders is far more persuasive than evidence showing that profiling has predictive utility for specific leaders. This has problematic implications for the feasibility of prediction.

It is convenient to consider the two forms of validating profiling approaches in turn, reviewing the connections between characteristics and policy *across* leaders first. The evidence for these connections is plentiful. Many relationships between personality variables and political behaviour have been replicated to the extent that they are now beyond reasonable doubt. This includes some key variables that have helped to distinguish leaders who are likely to use force from leaders who are likely to use more peaceful strategies.

Success in making such connections has occurred from the outset of the research. For instance, in an early study, Hermann (1980a) measured six personality characteristics of 45 different leaders from a range of governments. Preliminary investigations had already found connections between certain characteristics and political styles: e.g., Driver (1977) found a connection among low conceptual complexity, distrust, and aggressiveness. Hermann went beyond the early research by creating a system that measured many variables in combination. Thus, if a leader was shown to be relatively low in need for affiliation, high in need for power, low in complexity, distrustful, and nationalistic (similar to having in-group bias), and had a strong belief in the ability to control events, he was categorized as having an *independent* orientation. Other leaders, with broadly the opposite characteristics, were categorized as having *participatory* orientations, being much more interested in forming agreement with other leaders and not acting in a unilateral manner.

The statistical correlations found between these orientations and past foreign policy behaviour offered some initial support for the conceptualizations. For instance, leaders classified as having an independent orientation were more likely to get negative feedback from other countries and were also more likely to pursue hostile policies. Those with participatory orientations, who paid more attention to the interests of other nations, were (as expected) likely to adopt the opposite kinds of policies and establish the opposite (i.e., comparatively harmonious) kinds of relationship with other countries.

Also of note in this study were correlations among the component variables. For example, conceptual complexity was positively and moderately related to measured friendliness, a finding since replicated (using *integrative* complexity as the cognitive measure) among 41 American presidents (Thoemmes & Conway, 2007) and connected to peaceful outcomes in a comparative study of crises ending in war or peace (Winter, 2007). Higher levels of need for power were moderately correlated with acts of foreign policy aggression, a finding that has since proved robust using other measures of power motivation (e.g., Winter, 2007; see below). The systematic connections between personality variables and policy behaviour, as found in this study, were therefore an early indication that a leader's traits could prove to be a critical factor in predicting foreign policy.

Expanding on her 1980 enquiry, Hermann (1987) later studied the foreign policy role orientations of twelve sub-Saharan African leaders, looking at four types of orienting factors in each individual: beliefs (nationalism, perceived ability to control events), motives (need for power, need for affiliation), decision strategy style (self-confidence, conceptual complexity), and interpersonal style (distrust, task orientation). These orienting factors were combined to produce six overall political orientations, a much expanded set from the original two. These orientations were: (1) *Expansionist*, interested in expanding one's sphere of influence and resources, (2) *Active Independent*, willing to interact, but on one's own terms, (3) *Influential*, looking to influence other nations' foreign policies, (4) *Mediator-Integrator*, concerned with resolving problems in the international arena, (5) *Opportunist*, taking advantage of present circumstances, and (6) *Developmental*, expressing concern for one's own nation through rewarding relations with others.

In terms of the connection between profiles and policy behaviour, there were some intuitively predictable findings. For instance, the longer a leader had been involved in a national struggle for self-determination, the more likely he was to be active-independent (i.e., self-dependent and challenging of constraints). Equally logical was the finding that military leaders tended to have more of an opportunistic orientation, i.e., focusing on what is possible in the moment and guided by the problems at hand. Given that military leaders must show these qualities to be successful, it is not surprising to see the same pattern in their political leadership. On the other hand, there were also some very *counter*intuitive patterns. For instance, active-independent leaders were more likely to be aligned with either the Western or the Eastern bloc than they were to be non-aligned, the precise opposite of what might have been logically predicted. Any claims to the validity of the profiles that emerged should therefore be interpreted cautiously.

Shannon and Keller (2007), in a study of the recent Bush administration's Iraq policy, also obtained mixed results. They tried to make a connection between Hermann's (2006) set of trait variables (need for power, distrust, conceptual complexity, ingroup bias, self-confidence, belief in ability to control events, and task emphasis) and leaders' willingness to break "international norms." To see if such a connection could be found, they selected seven officials from within the

Bush administration and predicted (among other things) that those officials who had been highest on the dimensions of need for power, distrust, and ingroup bias would have also been the officials most likely to support breaking with international opinion and invading Iraq.

Across the seven subjects, the leadership score most consistent with the hypotheses was distrust. This variable seemed to be systematically greater amongst the Bush administration's Iraq "hawks" (e.g., President Bush himself and Paul Wolfowitz) than among those who were more reluctant to use military action (e.g., Colin Powell and Richard Armitage). This result replicates one of Driver's (1977) earlier observations in a simulation using high-school students that high levels of distrust were associated with more serious aggression in simulated foreign policy decisions.

However, this is where any unambiguous support for Shannon and Keller's predictions ended. For instance, although Colin Powell was found to be low in ingroup bias and need for power, and although George W. Bush was higher than average on these traits -- both findings as predicted -- other individuals in the administration did not follow the predicted hawk-dove pattern. For example, Donald Rumsfeld, another strongly pro-invasion member of the Bush administration, was only average in his need for power. Inconsistencies such as this permeated the results. Incidentally, the power motivation results cited here were restricted to the domain of Iraq policy: in other domains, surprisingly, Powell was higher and Rumsfeld lower than the average of the group. Where relationships could be found for one official, other officials showed a contradictory pattern. This made it very difficult indeed to draw any firm overall conclusions regarding the relationship between the variables and the individual's support for a policy that ignored the opinions of most of the international community.

Other studies, though, have shown more consonant relationships between personal characteristics and policy behaviour. In an examination of members of the Soviet Politburo, for instance, Hermann (1980b) found that those members who evidenced a higher need for affiliation and a higher degree of self-confidence were on average much more likely to support a policy of détente with the U.S. Thus, individuals apparently motivated to maintain good international relations *and* were confident in their own ability were willing to move away from hostile tactics vis-à-vis the competing superpower.

Also consistent with the theory is recent evidence that demonstrated a link between a cluster of characteristics and policy aggressiveness in dealing with crises. Using Hermann's conceptualization of leader dimensions (see Hermann, 2006, 1987), Keller (2005a,b) measured the *constraint challenging* (i.e., high in need for power, high in distrust, task rather than relationship orientation) natures of 39 leaders. Having categorized leaders as being high (e.g., Ronald Reagan), low (e.g., John F. Kennedy) or moderate on this dimension, Keller then calculated the probability of those leaders using violence as a response to international crises. Other key contributing factors, such as the precipitating events and power asymmetries, were held constant. The results were unequivocal. Across all crises, leaders rated lowest on the constraint challenging dimension were very unlikely to use violence as the pre-eminent response to crisis situations. In contrast, those who scored highest on the constraint-challenging dimension were much more likely to use violence as the pre-eminent response to an international crisis. Even when faced with a violent beginning to the crisis, those low in constraint-challenging behaviour only reached a likelihood of using violence in 11% of cases, up from 3% when no initial violence was involved; as predicted, high constraint-challengers rose considerably, from 41% to 68%

likely. This is powerful evidence of leader differences in political orientations having significant effects on policy choices.

Tetlock and his colleagues have found consistent connections between integrative complexity (IC) and political positions. Tetlock (1981a, 1983) found that US senators who were low in IC were significantly more likely to hold isolationist foreign policy positions and were also more likely to hold generally conservative policy positions, even when possible covariates such as age, education, party membership and time in the Senate were controlled. The relationship between IC and ideological orientation held firm in groups other than American politicians. Politically moderate British Members of Parliament, for example, were found to make statements that were higher in IC than those of more extremist left- or right-wing members (Tetlock, 1984). Differences in the IC of Soviet politicians also helped to distinguish their policy positions: Soviet politicians with lower levels of integrative complexity held more traditional views (e.g., being absolutely against market mechanisms), while those with higher IC levels took more reformists positions, such as favouring more openness (Tetlock, 1988; Tetlock & Boettger, 1989).

Other evidence has shown that it is not just the characteristics of leaders that seem to have an effect on policy, but also the characteristics of those lower in the hierarchical ladder. Taking the research beyond the examination of national leaders, Crichlow (2005) has shown in a study of secretaries of state and foreign ministers that the personalities of such lesser (but important) individuals can also have significant impact on the policy-making process. Ranking the foreign policy propensities of governments on a continuous quantitative scale of aggression vs. co-operation, Crichlow found several links between personal characteristics of these cabinet ministers on the one hand and government preferences on the other. Specifically, he found that:

- The higher the relative distrust in others expressed by the minister, the more aggressive the government's policy.
- The greater the minister's belief that the international world was inherently one of conflict (see Section 2.2.5.1 -- Operational Code P-1), the more aggressive the foreign policy.
- The greater the minister's belief that the international world was predictable (Operational Code P-3), the greater the use of cooperative policies in foreign affairs.
- The greater the minister's belief that one could shape international events (Operational Code P-4), the greater the government's propensity to use cooperative tactics.
- The greater the minister's belief in the role of chance in foreign affairs, the more aggression in the foreign policy.

All these relationships held fast even when controlling for the initial level of provocation experienced by the respective governments at the hands of other countries. These results are thus both impressive and important. They show the potential for personality to be influential and predictive, an influence that is not restricted to the government's top leader.

Besides studies comparing a large number of individual decision-makers, connections between personality characteristics and policy have also been found in pseudo-experimental designs comparing two leaders in a similar situation.

Using this method, Schafer and Walker (2006) have found evidence of a connection between belief variables (i.e., the operational code variables described above) and variability in the so-called "democratic peace," the phenomenon that democratic governments do not go to war with

one another even though conflicts between democracies and non-democracies (and, of course, between different non-democracies) continue to occur. They did this by examining the operational codes of two democratic leaders, Tony Blair and Bill Clinton, during the Kosovo crisis of 1998-99. Both Blair and Clinton had more co-operative beliefs (P1) about democracies than about non-democracies, a finding consistent with micro-level and structural explanations of the democratic peace. However, there were subtle differences in the way the two leaders treated non-democracies. Given both leaders' generally less cooperative approaches to non-democracies, the authors found that Prime Minister Blair was even more hostile to non-democracies than President Clinton. Moreover, this difference seemed to manifest itself in the actual policy behaviour of each leader's country during the Kosovo crisis.

Thus, although both leaders shared the same positive bias toward other democratic countries, there was an important divergence in their treatment of those with other political systems. This was a compelling result that again points to the utility of assessing leaders' characteristics to make sense of policy, rather than relying purely on structural (i.e., macro-level) explanations. The latter would not have explained key differences between Blair and Clinton, and between British and American policy, in regard to the Serbian attack on Kosovo.

Comparing leaders in similar although not identical circumstances, Dyson (2006, 2007) found a connection between a leader's need for power and perceived ability to control events, and his government's potential for going to war. He studied Blair and Harold Wilson, two British Prime Ministers who each had an opportunity to enter an optional war in alliance with the USA. For Harold Wilson, the war was Vietnam (1965-1975) and for Tony Blair, it was the war in Iraq. Of the two leaders, only Blair decided to enter the war, despite somewhat comparable circumstances.

To answer the question of why Blair but not Wilson went to war, Dyson examined the characteristics of each leader, using Hermann's (1980a, 2006) quantitative leadership trait analysis software. Dyson scored the two leaders' responses to foreign policy questions prior to the critical decision and compared the scores on need for power and their belief in the ability to control events to the mean scores of a norm group consisting of a sample of national leaders. The result was intriguing. Blair had a significantly greater need for power and greater belief in his ability to control events. His scores on these two dimensions set him far apart from other international leaders and from previous British Prime Ministers (Dyson, 2006). Wilson was significantly lower than Blair in these qualities, and close to the international leader group average. Given the many similarities between the two situations, it seems likely that the qualities that set Blair off from other leaders may have been the critical factor that caused him to differ so markedly from Wilson in deciding how to respond to a crucial dilemma involving relations with a key ally in a comparable situation.

Dyson's (2007) connection between Tony Blair's high need for power and his subsequent decision to join the war effort adds to the large number of connections made between power motivation and a leader's disposition regarding war. For instance, Winter (1980) examined the motive profiles of southern African leaders, and found that power imagery was strongly related to judges' ratings of each leader's war disposition (likelihood of entry into war). Winter later (1987b, 2005) reported that among a number of US presidents, power motive imagery in the president's language at the beginning of his administration is strongly and positively correlated with the United States' going to war during the President's term. More recently, Winter (2007) found that, across a number of international crises, imagery associated with power motivation was higher in communications (i.e., inter-government communications, speeches, and broadcast

commentaries) leading up to conflict (e.g., the Bay of Pigs invasion) compared to those ending in peaceful resolution (e.g., the Cuban Missile Crisis). It seems, therefore, that the connection between power imagery and the potential or actual use of force is a reliable one.

Moving away from inter-nation conflicts, Smith (2008) found the use of power imagery to be significantly higher in the communications of terrorist groups than in those of non-terrorist groups, even when the two professed similar ideologies. Another study (Smith, Suedfeld, Conway, & Winter, 2008) used an even more multifaceted approach in trying to distinguish terrorist from non-terrorist groups. All four groups studied were Middle Eastern Islamist organizations. Their messages were scored for the values of dominance, aggression, autonomy, morality, and religion; for motive imagery involving power, affiliation, and achievement; and for integrative complexity. The two kinds of groups differed reliably, terrorists referring more positively to their own moral, religious, and aggressive values (and more negatively to the religious values of "infidels"), using more imagery for power, achievement, and ingroup affiliation; and communicating at a lower level of integrative complexity.

Links have also been found between other types of motive imagery and crisis outcomes. In Winter's (2007) comparative study of crisis communications, the presence of achievement motivation imagery in communications showed a relationship to peaceful resolutions. Seven out of the eight peaceful outcomes were preceded by greater language use denoting concern for achievement than in comparable circumstances ending in conflict. Though the effect was not strong, it was consistent, indicating that some sense of ambition is part of a process toward peace. In other work, it has been found that the level of affiliation imagery used by American presidents has a moderate positive relationship with the signing of arms limitation treaties during their term in office (Winter, 1987b). On a perhaps simplistic level, then, it seems that power imagery may be connected to war, while achievement and affiliation imagery are connected to peaceful co-operation.

However, although the evidence linking power motivation to war is especially strong, it should also be noted that this connection is not without some qualifications. Although he found a connection between war entry and power motivation, Winter (1987b) also discovered a significant relationship between the use of power imagery and instances of war *avoidance*. Such a finding serves as a warning that power motivation is not a direct measure of propensity to go to war. Rather, it may underlie a relatively hard-line foreign policy approach, which may be less prone to making concessions in order to maintain the peace and may also provoke similar positions on the part of competitors. On the other hand, a strong hand can sometimes prevent war by persuading the opponent to make concessions. Thus, the relationship between power motivation and war is not necessarily a simple one.

The same might also be said of the link between need for affiliation and gentler foreign policies (e.g., Hermann, 1980b; Winter, 1987b). Partly replicating Winter's (2007) study, Smith (2008) collected communications issued during the same time frame by groups that engaged in terrorism (e.g., Hamas, the Ku Klux Klan) with non- or at least less violent groups (e.g., the Palestinian Authority, the "Dixiecrats" -- the 1950's Democratic Party in the Southern US), which shared the same goals. Computing the profiles of the two categories of organizations, Smith found that terrorist groups expressed higher levels of affiliation toward their own group and significantly lower affiliation imagery toward other groups than did their non-terrorist counterparts. Clearly, it is not the sheer level of affiliation imagery in the speech of a leader or political faction that is

important in judging adversarial intent; it is also important to know the object of the message, i.e., about whom such friendly images are projected.

Smith (2004) has made similar observations in her other work, thus continuing the argument for making more precise stipulations when making connections between variables and behaviour. On this occasion, she studied the values that terrorists attribute to their own groups and to their adversaries. These values were then compared to control groups that had similar ideologies but did not engage in terrorist strategies. Terrorist organizations were more likely than their comparison groups to attribute dominance values (a positive orientation to having power or acting aggressively) to their opponent and were also more likely to attribute such values to themselves. They were also much more likely than non-terrorist controls to view their own group as having higher moral values (statements exalting morality and truthfulness).

These two examples (Smith, 2004, 2008), as well as others (see Winter, 2003a; 1987a, and Section 2.3.3, dealing with dynamic approaches), make a strong argument for greater subtlety in leader profiling. Specifically, it seems a good idea to separate the statements used for the profile scores on the basis of their domain, i.e., subject or intended audience. This could improve the predictive (or retrodictive) power of the profile; but on the other hand, it would compromise the theoretical foundation that profiles identify stable and domain-independent personality traits. Only the operational code approach to profiling, in its division between philosophical and instrumental indices (Section 2.2.5.1), currently does this as a matter of standard procedure.

Other researchers have also tried to distinguish terrorists from non-terrorists using quantitative content analysis. Lazarevska and Sholl (2005) have used Hermann's (2006) set of leadership trait analysis variables and Walker, Schafer and Young's (2006) operational code variables to analyze terrorists, non-terrorists, and national leaders some of whom did while others did not support terrorism. They concluded that these variables could be used to correctly classify individuals predisposed to terrorism with a 90% accuracy rate. If this is confirmed in replication and extension, and especially in replicated and extended *prediction*, it would be a powerful argument in favour of the technique.

Overall, these studies provide convincing evidence that individual characteristics can have a key impact on important policy decisions. Regardless of potential refinements that may need to be made, the general connection between personal characteristics and policy outcomes has been well established through empirical enquiry. Power motivation, low cognitive complexity, distrust in others, and a perceived ability to control events appear consistently to characterize a leader who is relatively predisposed to aggressiveness in foreign policy. On the other hand, affiliation and achievement motivation, high integrative/conceptual complexity, and an optimistic view of international relations indicate a leader from whom one may expect more moderate and co-operative foreign policy stances.

However, identifying trends that differentiate leaders, as these papers have done, is different from making predictions about specific leaders. Indeed, the real acid test for a predictive tool is to ask whether it is possible that it can successfully predict specific outcomes or make predictions about specific leaders. It is to this use of the profiling approach that this review now turns.

2.3.2.2 Profiling Individual Leaders

Given that a number of variables can be linked to foreign policy stances, one might expect that transferring this knowledge to individual cases is straightforward. If a leader shows all the personality hallmarks that have been linked with an aggressive foreign policy, then one should surely expect him to pursue such policies. However, the verification of this possibility requires the testing of profiles for specific leaders, rather than the differences between their profiles and those of a comparison group such as a number of other leaders.

There are two ways in which theoretical linkages between personality profiles and leader decisions can be tested:

- Retrospectively, generating profile measurements of a historic leader and then interpreting what those measurements imply in terms of the leader's known foreign policy decisions. This can be done without scorer bias because the personality measures can be applied to verbal materials without the scorers' knowledge of whose characteristics they are scoring or of the source's foreign policy actions. The leader's policy choices can be rated separately by experts who have no knowledge of his personality profile. A good fit between the personality profile and the expert assessments of the leader's behaviour would affirm the validity of the method.
- Prospectively, creating a profile of a current leader, using that profile to make predictions about the leader's decisions in a current or imminent situation, and then, as history unfolds, confirming or disconfirming those predictions. This is more rigorous than retrodictions, because there is no possibility of biasing either the profile or its implications by the knowledge of what actually happened. Obviously, if the predictions turn out to be correct, it is also more useful; and if they do not, the findings can be used to adjust how profiles are generated and/or of how they are applied to the forecasting of decisions.

There is a considerable amount of research on the profiling of specific leaders. All of the variables reviewed in the previous section have been applied to specific leaders with the aim of at least shedding light on why they made particular decisions, even if no predictive capability is claimed. However, given the difficulty of measuring and publishing profiles before events have unfolded, it is perhaps unsurprising that retrospective rather than prospective studies dominate the literature.

For instance, although Hermann's (1987) study of sub-Saharan African leaders illustrated some interesting cross-personal patterns, profiles for individual leaders were far less clear. On the positive side, for example, Idi Amin was established as having a mediator/integrator orientation, which matches with his constant -- although unsuccessful -- attempts to advise foreign leaders and obtain recognition. However, assessments of other individuals were ambiguous. Certain figures, such as Robert Mugabe, did not emerge with a clear orientation at all. If no orientation emerges from the profile (i.e., the leader is generally average on the various dimensions), the researcher is left unable to make any substantial sense of the data other than to say that the leader is average. The implications of this "diagnosis" are unclear.

Other studies have been more persuasive in validating profiles on a leader-by-leader basis. For instance, Kaarbo and Hermann (1998) examined the leadership styles of four political leaders to determine how individual differences affected the policymaking process. By examining their personality characteristics from statements (a classic leadership trait analysis), they classified

Margaret Thatcher, John Major, Konrad Adenauer and Helmut Kohl on three dimensions: reaction to constraints (need for power, perceived ability to control events), openness to new information (conceptual complexity) and decision-making focus (need for affiliation and task orientation). They found that these four leaders had three distinct orientations, and that this was related to the way they managed their foreign policy.

Thatcher and Adenauer were categorized as *expansionists*. In other words, their profiles suggested that they were motivated to increase their span of control, were crusaders for their own political point of view, and were fiercely punitive of disloyalty. This seemed to match well with the two leaders' decisional propensities. Experts who were not involved in the profiling exercise described the two very similarly as being policy focused, liking to interpret information for themselves, and highly selective in the way they invited others to participate in decision-making.

Major's and Kohl's profiles were quite different. These two leaders were clearly more moderate and less dominating than Thatcher and Adenauer. According to experts, these two led cabinets that made decisions based on consensus, used interpretations of information by others, and allowed broad input into the decision-making process. With both pairs of leaders, the profiles seemed to provide a reasonable characterization of how experts summed up their management of the cabinet as it formulated foreign policy. One problem is that the leader's effect on the process is distinct from actual policy outcomes. As Kaarbo (1997) has argued, personality profiles are far less reliably associated with policy implementation than they are with the decision-making process.

Some degree of evidence for the utility of a leader's belief profile has emerged from the work of Walker, Schafer and Young (1998). They tested the utility of an operational code profile in the presidency of Jimmy Carter. Their procedure was to predict his profiles based on their knowledge of his time in office and prior to actually developing the profile. This contrasts with the more exploratory analyses of Hermann (e.g., 1980a, 1987), which did not predict the profile of each leader but evaluated the validity of the profiles after they had already been established. Walker et al. predicted that Carter's evangelical upbringing would point him in the direction of seeing the world as co-operative and therefore lead to a predisposition favouring co-operative strategies. His operational code bore this out. In terms of both philosophical and instrumental beliefs, Carter was biased towards seeing co-operative capability in others (P-1) and using co-operative strategies (I-1). However, the usefulness of either the expected or the measured profile in predicting Carter's actual decisions was not tested in this study.

Winter and Carlson (1988) have been successful in using the motive profile of Richard Nixon to explain his behaviour. They profiled his first inaugural address on the three motive dimensions of power, affiliation, and achievement. They found that while in comparison to 33 other presidents he was average on indicators of power motivation, he was relatively high on affiliation and achievement imagery. Based on behavioural correlates of these three motivational dimensions (discovered in laboratory settings and psychobiographical studies), the authors found that Nixon showed many of the behaviours that others high on achievement and affiliation also tend to demonstrate. In fact, the authors were able to obtain reliable biographical evidence for *all* of the typical behaviours demonstrated by people high in affiliation, and nearly 90% of the behaviours associated with high achievement motivation. In contrast, evidence was found for only 44% of the behavioural correlates of power motivation, as expected given his moderate score on that dimension. Thus, Nixon's motive imagery scores predicted what kind of behaviour might have been expected from him, including his willingness to bypass legal obligations where necessary

(cheating being a correlate of high achievement motivation). However, as the authors themselves noted, using personality profiles to explain behaviour always raises problems of precision. For instance, although high achievement motivation may increase the propensity for cheating, it does not necessarily follow that a person high in achievement motivation will actually cheat, much less cheat in a specific situation. To make such a behavioural prediction would be bold indeed.

A study by Weintraub (1986) on the verbal styles of Jimmy Carter and Ronald Reagan, compared to normal and deviant populations, also illustrates how profiles might characterize the different styles of leaders. Weintraub found that the verbal pattern of each president closely matched the impression each leader projected in press conferences. Reagan and Carter differed significantly on several dimensions. For example, Carter was far more likely than Reagan to use "I" instead of "we," a sign of independence implying that Carter saw the administration as his own sole responsibility. This is consistent with the prevalent view that Carter micro-managed his administration. In contrast, Reagan's tendency to use "we" instead of "I" illustrated that he was a team player, often giving generous credit to those who had served the administration well.

Also of interest was the differential use of explainers, qualifiers, and retractors. Carter used these very sparingly, supposedly indicating his thoughtfulness before responding to questions and his reliance on facts to support his arguments. On the other hand, Reagan showed impulsivity in his more frequent use of retractors. However, although these data are compatible with impressions of the leadership styles of the two presidents, no connection is established between those styles and foreign policy. However, Weintraub did get closer to doing this in a subsequent study in collaboration with others (Winter *et al.*, 1991a, described below).

These examples of predictive profiling make broad predictions of behaviour across the span of a leader's time in office (when they make any predictions at all). Profiles are perhaps more useful when applied to specific cases. Two examples of these have already been mentioned. Dyson (2007) found that Tony Blair's decision to join the US-led coalition in the 2003 invasion of Iraq could have been predicted by his higher than average need for power and perceived ability to control international events. Likewise, Schafer and Walker (2006) found that Blair's more hostile stance towards non-democracies (compared to Clinton) could be detected in his P-1 operational code belief. In application to the Kosovo crisis, this could have predicted the differing stances taken by the US and UK. Unfortunately though, profiles are not usually applied in such specific situations, but in broad contexts unrelated to important international problems.

Thus, studies using profiling for the explanation of policy decisions offer some evidence that personality measured at a distance can offer predictions of leader behaviour. But there is also a high degree of uncertainty with regard to how such characteristics will influence specific decisions. If we accept that personality characteristics operate identically across situations, this uncertainty is not important; but whether personality does have so general an effect has not been established. Although there is no reasonable doubt about a connection between an individual leader's traits and his predilections in foreign policy, we do not know how useful the measurements are for predicting actual decisions.

Indeed, even the best retrospective evidence for profiling remains to some extent open to question. Adding to the problem of specificity is the problem of retrospective confirmation bias, where historical knowledge that would not be available in real time guides one's analysis. For instance, one might ask the question concerning the findings of Hermann (1987): Was Idi Amin's

behaviour in office (including his grandiose claims to empire and his notorious collection of self-awarded medals and titles, his collusion in the high-profile Entebbe skyjacking and hostage taking, his many murders and possible cannibalism) really compatible with having an integrator-mediator political orientation, or were the profile data grounds for an unusually charitable interpretation of his record? Would Dyson (2007) have been able to predict Blair's stance on the Iraq War using the profile results if Blair's decision had not been already made and known? It is difficult to be conscious of all influences on one's judgment, and even the most seasoned researcher may not be able to eliminate such biases when he or she engages in retrospective analysis. The researcher must be aware when judging success that all retrospective predictions will most likely have some component of bias. Incidentally, a major component of such bias is one of the common criticisms of qualitative content analyses.

Truly solid evidence for or against any predictive approach can only come from a test in real time –- i.e., from actual predictions. These are comparatively rare in the literature. However, there are some examples that get to the heart of how useful the profiling approach might be, exposing their limitations as well as the benefits of assessing personality variables to make projections.

One especially interesting example of such forecasting was a joint project involving four researchers (Winter et al., 1991a). They profiled Mikhail Gorbachev and George H. W. Bush, and predicted how each leader would manage his leadership tasks in the period 1988-89. The study applied four methods separately and reported the combined findings.

Leader Profile

On the basis of Hermann's (1980a, 1987, 2006) leadership orientation technique, Gorbachev was classified as having a *developmental* orientation (high in nationalism, distrust, and conceptual complexity). From these data, it was predicted that Gorbachev would pursue a policy of "controlled independence," that he would create opportunities through co-operation with others without over-committing his own resources. Bush, who was high in nationalism, high in conceptual complexity, and low in task orientation (i.e., more interested in forming consensus than in pushing through policy), was classified as having an integrator orientation. He was therefore predicted to be fairly similar in some respects to Gorbachev in that he would be interested in improving the standing of the country. However, he would do this by first gaining a broad basis of support.

Motivation

A separate motive analysis revealed that Bush and Gorbachev both scored well above the average for national leaders on the achievement and affiliation dimensions, but were only average on the need for power. Due to their high scores on the affiliation and achievement dimensions, it was predicted that both leaders would be rational and co-operative, would seek arms limitations (as had been previously indicated by high affiliation imagery; Winter, 1987b), and would use aggressive tactics sparingly or not at all, providing that neither felt threatened or betrayed by the other. If that did happen, both could respond quite aggressively, as is common among people high in affiliation.

Operational Code

A qualitative operational code analysis revealed that Bush had a negative view of international relations (equivalent to a negative P-1 score), seeing the political universe as dangerous. This would manifest itself in a preference for threats and sanctions (equivalent to negative I-1 score)

over more friendly and co-operative strategies. Gorbachev differed somewhat, seeing the world in more friendly terms and therefore being more likely to use positive responses by appealing to the better nature of others.

Verbal Style

Bush and Gorbachev were both found to use a high number of direct references (engaging interpersonal styles) and to have expressive emotional styles (inferred from a combination of factors: the I/We ratio, use of non-personal references, adverbial intensifiers and direct references). However, there were also some critical differences. Bush was higher in the use of negatives, illustrating more of a propensity for oppositional stances. He was also high in his use of retractors, a sign of impulsivity and perhaps the most critical factor affecting political decisions. It was predicted that this latter trait could lead to great indecision during crises. In contrast, Gorbachev was only moderate in the use of retractors.

These factors were melded together to create some general predictions. The authors anticipated that both leaders would seek to be cooperative in their actions toward each other and to obtain maximum benefits for both parties, providing that neither party betrayed the other. They were also predicted to formulate genuine improvements in policy, though they might experience frustration, lacking the force and guile to push through these improvements in the face of opposition. In terms of relations between the US and the USSR, the authors predicted that it would be very important for Gorbachev and Bush to have good impressions of one another so that the defensiveness associated with their high distrust and the sensitivity that goes with high affiliation motivation would not be exacerbated. If sensitivity were to be shown by each leader to the other, and if Gorbachev and Bush both surrounded themselves with advisors who would complement their weaknesses (indecisiveness in the case of Bush and low power motivation for both), both leaders were predicted to succeed in their policies toward each other. This prediction was strengthened by the compatibility between the two profiles.

In a follow-up paper, the same authors (Winter *et al.*, 1991b) evaluated the accuracy of the predictions based on the profiles. The general predictions had received some validation by the subsequent behaviour of the two leaders, especially in respect to two major events: the Persian Gulf Crisis and the deteriorating domestic situation in the USSR.

For instance, with regard to Bush's behaviour during the Gulf Crisis, one might say that his coalition-building prior to declaring war was evidence of his desire to build support before he took drastic action. This contrasts with Bush's son, President George W. Bush, who was less patient when he was frustrated in his repeated efforts to form an international consensus and a broad base of support before the Iraq War that followed in 2003. Bush *pére*'s decision to use force in response to Saddam Hussein's invasion of Kuwait was also predictable from his high affiliation motivation, more negative strategic operational code, and impulsiveness (the last being somewhat at odds with careful preparatory coalition-building). Bush had earlier been a supporter of Hussein, but the latter's violation of Kuwait's sovereignty was a perfect cue to bring out the defensive side of someone with these traits. In contrast, the compatibility between Bush and Gorbachev, and the Soviet leader's appeal and responsiveness, ensured a continued peaceful and co-operative relationship with the USSR, with both nations even agreeing on how to deal with the Persian Gulf Crisis.

Gorbachev's overall developmental orientation, subsuming high achievement motivation, nationalism, and pragmatism but low forcefulness, came into play in his attempts to bring about

success vis-à-vis Afghanistan and Chechnya, establish and maintain good relations with the West, and create a stable, open, and less imperialistic USSR (Winter *et al.*, 1991b). His failure to achieve these important goals can be seen as a result of his lack of guile and political force, which comes with his merely average level of power motivation. Gorbachev's pragmatism was manifest in his handling of the Persian Gulf Crisis, where he promoted a variety of strategies with respect to Iraq. Among these was the use of incentives, consistent with the friendlier worldview evidenced in his operational code. Given these outcomes, one could conclude quite reasonably that both Gorbachev and Bush were accurately characterized and their policies accurately predicted by their profiles.

But one should not accept such a success too wholeheartedly. The predictions made about actual policy were broad, suggesting only what kinds of decisions to expect rather than forecasting particular actions. Making connections between events and predictions, when the predictions are not especially clear-cut, is a common phenomenon. The Barnum effect, demonstrated for example when people deduce personal specifics from vague astrological profiles, could be evident here in the authors' *post hoc* interpretations of quite general predictions. However, in defence of the prediction-makers, it is also clear that this impressionistic style of making projections is unavoidable if one does not yet know the situations that a leader will face. As Winter (2005) has emphasized, personality exists in context and must be interpreted accordingly.

The importance of this *caveat* can be demonstrated by yet another example. Winter (1996) found that President Clinton's power motivation increased significantly during the second half of his first term in office. So far in this review, it has been shown that higher levels of power motivation are associated with the use of aggressive foreign policy strategies. Did this surge in Clinton's power motivation reflect an increased probability of his getting the US into a war? Probabilities are unobservable; the fact is that although the US did engage in military action during Clinton's term (Somalia and the Mogadishu disaster in 1993, the invasion of Haiti in 1994, the air war against Yugoslavia in 1995, the missile and bomb strikes against Iraq in 1998, the Kosovo intervention in 1999), there was no major war. The increase in power motivation could be reasonably interpreted as a reaction to his difficult first few years and as reflecting his efforts to be re-elected. However, a projective profile reading at the start of Clinton's tenure in office could not have foreseen any of this contextual information.

The specificity and accuracy of forecasting could perhaps be better tested by making shorter-term predictions, where situational factors are more perceptible and psychological measurements can be interpreted more directly. An example of this is Winter's (2001) projection for the presidency of George W. Bush. Winter predicted that Bush would be aggressive in his foreign policy (based on his high power motivation), would enjoy being president (based on his low achievement aspirations) and would be vulnerable to scandal due to the closed and secret nature of his decision-making and to the strong influence of advisors on his foreign policy (in turn due to his high affiliation motivation).

The first part of this prediction turned out to be correct, although the counterfactual is compelling: if the atrocity of 9/11 had not happened, would there have been an aggressive Bush foreign policy? As to the other issues, can we say that Bush enjoyed his presidency? Some of it, no doubt yes; other parts, almost definitely not. How would one even measure his enjoyment or lack thereof? Next, was his administration unusually susceptible to scandal? His tenure in office certainly saw a number of scandals, but they did not seem particularly frequent or severe, and

they did not involve him personally (as in the case of the Clinton administration, to name only one example).

What made this set of predictions even partly accurate was that the profiling was supported by Winter's (2001) knowledge of Bush's advisors (in particular, the "hawks," whose critical role Winter specifically emphasized), who would ultimately have strong influence on Bush's foreign policy. Standing alone, the motive profile would perhaps have produced only nebulous predictions. Also, one should note that there was more room for error in Winter's predictions than might first be apparent. Commenting that the implications of Bush's profile could change depending on the degree to which he followed the advice of his "hawk" advisors (after all, Colin Powell, definitely a non-hawk, was Secretary of State) opened an escape clause if the prediction turned out to be incorrect. This shows just how difficult it is to make clearly testable predictions using profiling – or, for that matter, most other theoretical or methodological starting points (cf. Tetlock, 2005).

The imprecision of profile-based predictions, whether or not they employ a number of approaches simultaneously, is understandable. As already noted, political decisions are affected by many factors. Although leader personality is important, other variables may dilute or submerge its impact (Crichlow, 2002). Such extraneous factors are of course difficult to identify far in advance of the course of an evolving situation. One way to deal with such problems is to make predictions but place them in context. The researcher can create likely scenarios through his own judgment and knowledge about the political situation, as Winter (2001) did in the case of George W. Bush and his advisors; but this is far from completely satisfactory, because the scenarios would vary considerably as a function of the judgment and knowledge of the individual making the prediction. What would be more useful would be a method for identifying relevant *types* of situations in advance. Then, specific events can be categorized and their predicted effect on the leader's reactions can be taken into account. The emerging prediction would be based on the hypothesized interaction between the situation and the leader's profile.

One possible way to clarify these predictions even more would be to associate each type of situation with an associated probability. Thus, for example, a leader with a particular profile facing a specific kind of situation (e.g., the defection of an ally) might be described as 10% likely to ignore the defection, 20% likely to reduce aid to the defecting ally, and so on. The percentages would necessarily be estimates, but such a table would at least provide a comparative forecast of what might be expected given the leader's general profile of characteristics.

2.3.2.3 Event X Profile Interactions

To their credit, Hermann and her colleagues, as well as other researchers, have made strenuous attempts to delineate the extent to which personal characteristics will have an effect on decision-making in various situations. This effort has led to the identification of several factors, including structural ones, that may strengthen or diminish the influence of personality traits. In addition, a number of formal frameworks have been formulated to help define the differences among various decision-making structures and thus provide a starting point for more complex analyses.

Somewhat paradoxically, there are personality variables that moderate the effects of personality variables. Hermann (1980c) has argued that the stability of personality itself is a personality factor. For example, high sensitivity and responsiveness to situational factors can reduce how reliably behaviour can be predicted from personality measures. In her study of sub-Saharan

African leaders, Hermann (1987) identified many leaders whose profiles changed over time. One such leader was Robert Mugabe. As mentioned before, his scores did not diverge from average when considered over the entire period 1975-1982. However, when his profile was divided into time segments, a change was noted: in 1975-1979, prior to the overthrow of Rhodesia's white-dominated government and the emergence of Zimbabwe, Mugabe evidenced a distinctly expansionistic orientation. This disappeared in the profiles constructed after independence was achieved. Robert Mugabe was but one example of many who showed such shifts in orientation over time phases in this study. Changes, not consistency, of orientation were the norm for these leaders.

A study of the operational codes of George H. W. Bush and Bill Clinton (Walker, Schafer, & Young, 1999) showed different levels of situational responsiveness. The aggressiveness of Clinton's language in a number of international disagreements varied depending on his opponents' moves, but this was not true of Bush. Once Bush had chosen a policy, the operational code was set regardless of what the opponent did. This result paralleled a previous report by Crichlow (1998) regarding Shimon Peres and Yitzhak Rabin. He found Rabin to be relatively stable, whereas Peres shifted depending on the political context. Many other studies demonstrate similar, often systematic, shifts (see Section 2.2.3), leaving very little doubt that stability should never be assumed.

Foreign policy exposure and experience can also be important moderating factors. Hermann (1980a), in her study of 45 political leaders, found that training (i.e., experience in foreign policy positions) had an important moderating effect on the relationship between relevant experience and foreign policy outcomes. The characteristics of leaders who had the most foreign policy experience prior to gaining power seemed to have significantly less effect on foreign policy than the personality of those who were relatively new to the arena. This implies that learning the norms and rules of foreign policy can reduce the influence of personality-based behavioural tendencies.

Differences in orientation across policy domains and the policy-making process have also been found. For example, Suedfeld (2000) reported that Canadian politicians showed higher integrative complexity when discussing areas of social and economic policy that were closely related to their party's core platform. Hermann (1994) examined Bill Clinton's administration after seven months, using an executive arrangement analysis framework (Hermann & Preston, 1994). She reported that Clinton had two distinct leadership orientations, manifested in two different administrative arrangements. These were in turn dependent on the stage of policy-making. When policy was ill-formed and information was still in the process of being gathered, Clinton was task-focused but informal in the way he related to others. But when policy was reasonably well-formed, he looked for consensus and adopted a more formal approach. Both sets of qualities were present in his personality profile, but each emerged only under particular conditions. Thus, Clinton's presidential style was essentially a hybrid of two distinct orientations, contingent on the stage of the policy-making process.

To deal with such complicating factors, Hermann and her colleagues have expanded their focus well beyond leader personality characteristics alone. For example, they have studied the basis of decision making as not residing only in the leader's personality characteristics, but also in the structure of the decision-making group (Hermann & Hermann, 1989; Kaarbo, 1997; Kaarbo & Hermann, 1998; Stewart *et al.*, 1989). This expanded view has led to a much more formal

framework for deciding when personality will have an effect on policy making and how that effect will be manifested.

Kaarbo (1997), in developing a leadership style framework for prime ministers, proposed that although leadership style may always have some effect, that effect may often be indirect. As mentioned previously, she asserts that the greatest impact of personality is on the process of reaching a decision, rather than on the resultant decision itself. If the leader is not interested in a foreign policy issue, the attention of analysts should be directed to someone else, presumably the person who takes charge of the decision. When a leader does take charge, his preferences will dictate how foreign policy tasks will be handled. This includes whether the focus is on problem-solving or on maintaining relationships, how conflict is dealt with, how information is managed, who is involved (e.g., to provide information or advice) and what decision rules are used to make the final choices. She also states that personality characteristics are unlikely to have much direct impact on decision outcomes and are even less likely to have a detectable effect on foreign policy implementation. Kaarbo's framework leads to the conclusion that the overall effects of personality characteristics on policy are usually diluted, but emerge when foreign policy decisions are made during a crisis (Kaarbo & Hermann, 1998).

There are also broader structural considerations that may enhance or diminish the effects of leader personality. In particular, personality effects can become diluted when the leader is not the sole decision-maker in a government. Hermann and Hermann (1989; see also Beasley et al., 2001) have tried to take this into consideration by providing a formal framework for deciding exactly who is making the decisions. They divide the possible "ultimate decision-making units" (the person or group of persons who have an equal and final say on foreign policy) into three types: *predominant leaders* (a single person is the ultimate decision-maker), *single groups* (agreement must be reached among several individuals) and *multiple autonomous actors* (a number of different parties must be satisfied before a decision can go ahead). In this taxonomy, it is only when decisions are made by a predominant leader that the personality of a single individual will have a significant effect on foreign policy outcomes (Hermann, 1993).

To complicate matters even further, not all decisions in a government will be made in the same way. In some cases, a dominant leader may make the decision unilaterally, whereas other decisions might be made in conjunction with one or more groups. In some instances, a decision-making body itself might be closed to outside influence; on other occasions, it may be heavily affected by external advisors, experts, polls, etc. Consideration of all of these possibilities should, according to these researchers, be incorporated in any analysis.

To sum up, Hermann (1986, 1995) favours what she refers to as an umbrella approach to understanding decision-making. In any attempt to explain (and presumably predict) a decision, this approach requires the consideration of (1) the leader, (2) the followers, (3) the relationship between leaders and followers, and (4) the context. But what impact does the consideration of even more factors have on the prediction of events? We know of no predictions that have taken such a myriad of variables into serious account. However, one example of an *explanation* of foreign policy that takes into account multiple factors and provides some perspective on what such a prediction would look like is Stewart, Hermann and Hermann's (1989) model of the 1973 Soviet decision to escalate their military supplementation of Egypt's war-making capability.

This decision was a significant policy shift by the Soviets towards the Middle East, as it meant a vast increase in the number and types of weapon to be sold to Egypt. This was a controversial

move because although it was intended to secure the Soviet relationship with that country, it also had the potential to ruin the more important policy of détente with the US. To make sense of this decision, therefore, the authors asked three questions:

- Who in the Politburo is critical to making decisions?
- What are their preferences?
- How are disagreements handled?

To answer the first question, the authors chose among nine different potential power structures based on whether decision-making authority was (1) dispersed or clustered and (2) whether there was competition for authority from an outside power group (three levels on each of the two dimensions, and therefore nine different regime types in total). Regarding arms sales to Egypt, power was concentrated within a few individuals and there was some competition from outside that group, so the decision would not depend on any one individual but on the combination of major individual players. The authors then measured each individual's evaluation of the sales policy (percentage of favourable statements over the total number of references to Egypt policy). Having identified the policy positions of these important participants, it was then necessary to assess their context sensitivity (i.e., conceptual complexity), and to devise an index of how likely each would be to change his position in the light of new information.

A series of decision rules, predetermined and different for each type of power structure, was then used to work out what outcome would result as the dynamics of the group operated. In the early phases of discussion when Egyptian policy was first considered, the decision rules predicted a moderate stance, maintaining current relations as they then were. This is consistent with what actually occurred. Several phases later, however, the context changed: Anwar Sadat ordered Soviet military advisors out of Egypt, thereby weakening Soviet influence. Two individuals in the main decision cluster changed position, thereby altering the functioning of the contingency model. This time, the conclusions from the decision rules favoured the implementation of an expanded sales policy, and again this policy was precisely what followed.

As the authors put it, this was a single "plausible" test of the approach. It illustrates the important combination of power structure, beliefs, personality, and intragroup dynamics, and is an impressive attempt at putting all of these influences into a tractable model. From the perspective of making predictions, the problem lies in the fact that the approach is heavily dependent on the authors' assumptions: i.e., their own decision rules. Such an assumption-heavy approach, no matter how elegantly constructed, will be unlikely to hold across all circumstances, and there are no empirically driven ways of checking whether one's assumptions have been upheld. In reality, the act of projecting leaders' orientations in different situations is highly speculative. If it is tied down formally, as the decision rules attempt to do, it can quickly lead to a combinatorial explosion, where there are simply too many contingencies to be accounted for.

However, there is an alternative. Could this task not be made much simpler (in terms of predicting rather than explaining the change) by monitoring the support for the policy once it was determined whose policy position mattered? This would not require the use of decision rules at all, nor any assumptions about how dynamics would play out through decision rules. It would instead be data-driven, go straight to the source of decision-making in real time, and still be predictive. This alternative view of how predictions might be made more directly, without appealing to long-term projective judgments, is a view employed in the *dynamic approach*. It is to this approach that Section 2.4 will turn.

2.3.2.4 Summary of Section 2.3.2

Section 2.3.2 has summarized the profiling approach to the use of personality variables in political psychology. This approach has been applied to the study of international statesmen, as well as to some lesser figures such as terrorists. Emerging from these applications is an abundance of evidence showing that having particular personality characteristics and beliefs, on average, makes a decision-maker more prone to preferring certain kinds of action to others. In particular, a high level of power motivation imagery, bleak philosophical beliefs about international relations, low cognitive complexity, and believing oneself able to control international events makes a leader more likely to use aggressive strategies. On the other hand, a leader who has high need for affiliation and achievement, relatively high cognitive complexity, and a friendly orientation toward the political universe is more likely to choose co-operative strategies.

Unfortunately, not all individual leaders fall into such fully consistent patterns. Most will fall somewhere in-between. Therefore, although the presence of certain characteristics is shown to have an effect on decision-making across leaders, it is far more difficult to make predictions about specific leaders. Adding to this problem is the difficulty of testing predictions. Without a specific context and time-line, predictions must necessarily be general in nature, meaning that their testability is significantly reduced. Although shorter-term predictions do allow more contextual factors to be taken into account and more specific predictions to be made, they may also be more dependent on the political knowledge of the person making the prediction.

One solution to the context problem is to generate predetermined decision-making frameworks, where multiple contexts are considered in advance of their probable emergence as relevant. However, to capture all potential contextual factors is a daunting, and most likely impossible, task. Moreover, if even one of the assumptions associated with the framework fails, the predicted path may be seriously wrong. From a practical point of view, predictions based on psychological variables might be made much simpler by tracking psychological states in real time rather than attempting to project profiles into an unknown future. It is to this alternative approach to making predictions that this review now turns.

2.3.3 Dynamic Approaches

In Section 2.3.2, it was suggested that instability (or flexibility) in a leader's personality is a complication that makes it more difficult to predict his behaviour accurately. Incorrect predictions or conclusions are difficult to avoid when the assumption of stability in a person's profile turns out to be incorrect, even in cases where the leader's propensity to change strategies is part of his profile. The world would be much friendlier to the profiling approach if people were invariant in their behaviour. In contrast to this, for proponents of the dynamic approach it is that variability that is the focus of interest. A change in the expression of a personality characteristic represents a shift in the psychological state of the individual and can have important implications for his decision-making.

Proponents of the dynamic approach believe that the observable expression of personality can shift in different directions as the context changes. This is consistent with the fact that even variables traditionally deemed to be consistent do change significantly over time (e.g., Dille & Young, 2000). Shifts are assumed to occur only when a change in some circumstance, internal or

external, has affected the psychology of the decision-maker. This is a key aspect of the dynamic approach.

In order to make this point more concrete, consider the case of senatorial leaders in the U.S. Many of these senators, all but a very few of whom belong to either the Democratic or the Republican Party, serve for long periods and therefore see their party form the majority and the minority from one election to the next. Tetlock and his colleagues (1984) have shown that senators with more liberal leanings are on average more integratively complex than conservatives, but that complexity also changes as a function of which party is in the majority. Liberals' speeches increase in integrative complexity when their party forms the majority, but the speeches of conservatives show little variation. Thus, the findings show that some people, in this case liberals, are more responsive to changes in conditions than are others, in this case conservatives. The conclusion is that integrative complexity can change in response to circumstances, but that it changes differentially rather than across the board. A similar pattern has been found in the changing integrative complexity of men and women, from many occupations and several centuries, as they faced and resolved personal crises (Suedfeld & Bluck, 1993).

These examples illustrate a theoretical point. Situational factors, including national security threats and economic crises, affect political decisions only as a function of their influence on decision-makers and their constituencies. If the changing context has not had such an effect, then no change in personality expression will be detected and no shift in policy should be expected. The direct appraisal of decision-makers' ongoing mental states, as revealed through their words, may be the most relevant information about how a decision-maker is likely to behave.

The evidence reviewed in this section shows the important ways in which the changing psychology of a leader predicts changes in policies. There is now ample evidence that psychological shifts predict, or at the very least co-vary with, political behaviour. In this part of the review, the more general examples of this relationship are assessed first, followed by specific evidence that shows how psychological variation in leaders and society relates to conflict escalation and de-escalation.

2.3.3.1 The Political Consequences of Psychological Changes

The conclusion that the psychological states of leaders are related to changes in their political behaviour and consequently to political outcomes can now hardly be in doubt. One outcome that has been of particular interest, and has been shown to vary with psychological factors, is political success in both democratic (electoral) and non-democratic systems.

The relationship between success and integrative complexity (IC) has been illustrated in a number of studies. In a study examining revolutionary leaders, Suedfeld and Rank (1976) found a strong relationship between revolutionaries' changing integrative complexity and their ability to gain and maintain power after the victory of their movement. The researchers measured IC in the utterances of major figures in five successful revolutions from the 17th to the 20th centuries and scored their integrative complexity before and after each revolution gained power. Half of the leaders, categorized as failures, were frozen out of power (and sometimes out of life) after the revolutionary movement became the government; the other, successful, half remained in power until they completed their legal terms in office, declined further governmental positions, or died of natural causes.

On average, the IC of the two groups' verbal productions while the revolution was in progress was low, and at about the same level; but once their group was in power, successful leaders showed a sizeable increase in IC. Failures did not change from before to after victory. The conclusion is compelling: single-mindedness and a Manichean outlook are useful qualities when one is involved in war; but in government, it is crucial to consider alternative policies, balance different interests and points of view, accept compromises, and work with former neutrals and opponents, both domestic and foreign. The leaders who made this cognitive and strategic shift experienced triumph. Those who continued to operate in dogmatic cognitive states met with failure.

A similar phenomenon has been found among U.S. presidents. Suedfeld (1994) reported that the 20th Century presidents whom historians considered successful (Eisenhower, F.D. Roosevelt, Kennedy) demonstrated substantial increases in IC from their campaign speeches to after their inauguration (scores published in Tetlock, 1981b). Those generally rated as the least successful (Presidents Carter, Nixon, Harding, and Hoover) showed the least such increase, if any. Thus, both among elected leaders and among revolutionaries, moving from the pursuit of power to successful governance is reliably associated with an appropriate change in the management of cognitive resources.

Indeed, the overarching management of cognitive resources over time -- what Suedfeld (1992b) has referred to as meta-decision making -- may be the key to understanding a number of historical paradoxes. For instance, Mikhail Gorbachev was highly successful in his foreign policy aims, implementing a number of initiatives to help secure relations between the USSR and both the US and China. Paradoxically, Gorbachev was ultimately a failure on his home front. At the same time that was gaining approval and admiration around the world, he reluctantly presided over the dissolution of the Soviet Bloc and the superpower state itself, and lost domestic support and eventually, his position. Wallace, Suedfeld, and Thachuk (1996) examined the integrative complexity of Gorbachev over his entire tenure in office (1985-1991). There was considerable variation in Gorbachev's IC levels, especially between his statements about domestic vs. foreign policy. In the area of foreign policy, his complexity scores were significantly higher than in the domain of domestic issues. This suggests that Gorbachev applied most of his cognitive efforts to foreign policy while neglecting domestic issues, where he incurred mounting antagonism.

This relationship between the management of cognitive resources (as reflected in IC) and success is a general one. Wallace and Suedfeld (1988) showed that some statesmen who for decades successfully held high-level positions (e.g., the Duke of Wellington, Lester Pearson, Andrei Gromyko) maintained or even increased their level of IC during serious crises, when the complexity levels of most of their colleagues and adversaries dropped. During major crises, the ability to continue high-complexity information processing is unusual. Under severe stress ("disruptive stress"), marked drops in complexity are characteristic of most decision-makers (Ballard, 1983; Suedfeld & Bluck, 1988; Suedfeld & Leighton, 2002).

It is not only IC levels that have been found to vary with political success. Focusing on motive variables, Ferguson and Barth (2002) have found another psychological recipe for success. In a study of U.S. governors, the authors confirmed that a combination of high achievement and power motivation in inaugural addresses was associated with a higher rate of the governors' bills being passed, whereas a predominance of affiliation motive imagery presaged a relative lack of legislative success. It is noteworthy that although achievement motivation was a necessary factor

in pushing one's program through the legislature, it was not sufficient for success unless it was combined with high power motivation.

A motive imagery analysis (Winter, 1996) of President Clinton's first term and re-election has shown that the dynamics between these variables need not be static but can vary over time, thus adding a dynamic approach to the traditional trait view of motivation. Winter found that during the early, most frustrating, periods of Clinton's first term as president (e.g., when the Clinton healthcare plan failed), Clinton's levels of achievement motivation considerably outstripped his power motivation. However, power motivation was higher than achievement motivation in four landmark speeches in the two years prior to his 1996 re-election. Winter asserts that this change in Clinton's dynamics may help explain Clinton's political resurgence and ultimately his comfortable victory in 1996. Interestingly, Clinton's Republican counterpart in the 1996 election, Bob Dole, expressed high levels of affiliation imagery during his election campaign, his defeat perhaps echoing Ferguson and Barth's (2002) results, summarized above.

Shifts in beliefs or learning experiences may also have implications for changes in foreign policy outcomes. Leaders' beliefs certainly do change over time and in response to significant political events. Work on leaders' operational codes has demonstrated this phenomenon. Schafer and Walker (1998), for instance, found that Jimmy Carter's beliefs about the political universe changed considerably in response to the Soviet invasion of Afghanistan. Prior to this event, Carter had for three years maintained a positive, co-operative, and optimistic view of international relations as reflected in his P-1, P-2 and I-1 operational codes scores. However, these all shifted significantly in the aggressive/pessimistic direction after the invasion, indicating that beliefs – like IC and motive imagery -- are indeed malleable in response to changing circumstances.

This finding has been supported by other evidence showing belief shifts among important political figures. Studying the operational codes of Shimon Peres and Yitzhak Rabin, Crichlow (1998) found changes in belief in the direction opposite to Carter's. Both Peres and Rabin began in the 1970s with a very negative view of the political universe -- a universe that was hostile to Israel. But this worldview was tempered considerably over the next twenty years, so that by the 1990s, both men had developed an essentially neutral worldview (indicated by changes in their P-1 codes). The change perhaps reflected Israel's growing sense of security in the world.

Indeed, belief shifts in response to learning experiences may be the norm rather than the exception. This has led Walker and Schafer (2007) to propose that leaders invoke different belief schemata or "states of mind" in different circumstances, and that they may also change after disruptive learning experiences. The authors developed operational code typologies (simplified versions of the ten-item Operational Code), and tested them using Theodore Roosevelt and Woodrow Wilson as subjects. They found significant changes between the first and second terms of both Presidents.

Conventionally, Roosevelt has been viewed as a "realist" who saw the political world as power-oriented, competitive, and unfriendly, and Wilson as an idealist who saw it as at least potentially cooperative, peaceable, and moderate. However, the operational code measurements showed a more complicated pattern. Roosevelt perceived the world as cooperative (P-1) during his first administration, but became more pessimistic and hostile during his second term. Paradoxically, his own strategy for dealing with the world (I-1) became more cooperative in response to this shift. Wilson showed less cooperative orientations (P-1 and I-1) than Roosevelt in both of his terms, and was found to move toward even more hostile views of the world and more hostile strategic tendencies during his second –- the period of World War I. Thus, the conventional

accounts of Roosevelt the realist and Wilson the idealist misunderstand their initial positions and also fail to note their changed perceptions over time.

Although these studies show leaders' ability to learn from the environment, they are open to criticism for "a lack of systematic measurement of [their] dependent variable" (Walker & Schafer, 2007, p. 770). Because of this omission, the relationship between changes in beliefs and new directions in policy has not been clearly established. However, given that there is a documented correlation between leaders' beliefs and policy behaviour (e.g., Crichlow, 2005, described above), future research may map how shifts in operational code and other psychological variables predict changed policies.

So far, it has been shown that changes in psychological states have important implications for political outcomes. However, just as important in the dynamic approach is the ability to detect a lack of change – i.e., stability -- in a leader's psychological state. As mentioned previously, even a dramatic event must have an impact on the psychology of decision-makers before it can bring about a policy change.

Unfortunately, significant changes are much more likely than consistencies to be reported in the scientific literature. Steady-state processes are not interesting, and a lack of change merely supports the null hypothesis; both factors make a report less publishable. In a rare example of very interesting consistency, Malici and Malici (2005) have shown that the beliefs of Fidel Castro and Kim Il Sung changed very little following the collapse of the Soviet Union. Just as importantly, their policies also changed very little. This was surprising because these leaders' policy outlook should have been severely shaken in the wake of the Soviet collapse and the resulting change in the structure of world order, especially given that the collapse had seriously harmful economic effects on both states. However, Castro and Kim clearly did not internalize this dramatic event as an example of the failure of their worldviews. As would be inferred from their persistent and unwavering policies, the operational codes of both leaders remained virtually identical from before to after the collapse of their superpower supporter.

The evidence discussed up to now has focused on the relationship between the psychological characteristics of leaders and the nature of their policies and decisions. However, shifts in the psychology of a society (measured for instance by aggregating measurements of media content or some other proxy) may be just as informative an indicator of subsequent political outcomes.

Three studies in particular have demonstrated remarkable dynamics at this level. Winter (1987b) found a higher level of electoral success for American presidential candidates whose motive profiles were more similar than those of their opponents to societal profiles projected by the mass media. To determine the degree of match between the motive profiles of politicians and societal indicators, Winter calculated the difference between the candidates' scores and the media's aggregated scores for achievement, power, and affiliation imagery. The candidates' vote percentages and margins of victory were higher when the motive imagery scores of the politician's speeches showed high similarity to imagery in the media.

This finding has been replicated and extended by Ethington (2001; cited in Winter, 2005), who tracked presidential motive imagery in relation to one indicator of societal motivation throughout the 2000 presidential election campaign. Ethington found better poll numbers for whichever candidate (either Bush or Gore) had the closer match with the motive imagery score of Jay Leno's monologue during the previous evening's *Tonight Show*.

Suedfeld and his colleagues (Suedfeld, Bluck, Ballard, & Baker-Brown, 1990) found that the motive imagery match between the Canadian media and federal party leaders (in effect, candidates for Prime Minister) was related to the party's success in federal elections. In this case, the relevant match was not between the profile dynamics *per se* but in the overall level of motive imagery. Party leaders whose total number of references to motivation was closer to those of the media were significantly more successful than their opponents. It appears that measuring psychological characteristics of the electorate, at least in democratic societies, may add useful information to that gleaned from studying leaders.

2.3.3.2 Psychological Consequences of Political Events

So far, the research presented has focused on evidence that the verbal communications of leaders and governments unwittingly signal their strategic intentions. Secondarily, we have shown that measures applied to the popular media can predict the behaviour of the electorate. We now turn briefly to evidence that the political decisions and their outcomes can have a wide effect on members of society who are not connected with the making of large-scale decisions. Whether such effects are predictive of, or related to, future governmental strategies has not been tested in the studies we review here. Anecdotally, one can point to the spreading and growing dissent among Americans as the Vietnam War continued, leading eventually to very major changes in US policies: the replacement of a president, the acceptance of the country's first defeat in war, and the abandonment of its South Vietnamese allies.

At least in democratic systems where leaders are expected to be responsive to the needs and desires of society, assessing the mental state of non-governmental members of that society may sometimes – as in the Vietnam example -- provide some indication of national intent. At other times, such measures may simply confirm that people support their government, or that the leadership senses and accommodates the mood of the citizenry. Such indicators may even show signs earlier than those provided by leaders, allowing longer-term projections. But even though predictive power has not been established, the impact of events on psychological reactions among non-governmental citizens is of interest.

One way to do this is go straight to the people, not just their leaders. Conover, Mingst and Sigelman (1980) did this by taking telephone polls in Kentucky to gauge the thinking of the populace during the Iran hostage crisis. Just one month after the hostage situation had begun, they found that even the most educated of those interviewed saw Iranians as being mirror images of Americans (i.e., Iranians were rated as extremely negative on many of the dimensions on which Americans were considered extremely positive). Given that many of those interviewed would have presumably had only a hazy view of Iranians a month earlier, this was a good indication of how public opinion had shifted in the direction of the policy of the country.

Systematic fluctuations in psychological variables have also been found in the communications of non-governmental groups, some of which were keen observers of the political landscape. Suedfeld (1980) measured the integrative complexity of editorials in *The Bulletin of the Atomic Scientists*, a journal produced by a group of high-level nuclear specialists and other scientists. The journal content reflects the intense concern of this group about dangerous world conditions at any given time, above all its judgment about the level of international tension leading to the short-term probability of a nuclear war. The *Bulletin*'s front cover features the image of a clock. The hands of the clock are moved closer to or further away from 12 (midnight) as the editorial board judges the likelihood of nuclear war to be increasing or decreasing.

Suedfeld grouped 27 editorials according to whether the clock showed high, medium, or low tension on the cover of the journal issue. When danger was at its highest, editorials (not necessarily written by a member of the editorial board, or even dealing with the topic of nuclear war) were significantly lower in IC; conversely, IC was highest when the clock hands were set furthest from midnight. Integrative complexity scoring is capable of detecting psychological change in individuals other than national decision makers expecting conflict, even if the reason for this change (in the case of the *Bulletin*, probably reflecting their increasing anxiety) may be different from the reasons influencing the IC of decision-makers (such as anger, information overload, mental fatigue, arriving at one unchangeable strategy, etc.).

These shifts have also been found in national newspapers. Suedfeld (1992a) studied the integrative complexity of editorials in the Toronto *Globe and Mail*, *New York Times*, and the official Soviet newspaper, *Pravda*, dealing with events that affected relations between pairs of the three countries plus the People's Republic of China from 1947 to 1982. The events were rated independently on a negative to positive scale (-3 to +3). A small to moderate correlation was found between integrative complexity and the valence of events, negative events being associated with decreasing IC. Given that the media are distant from political decision-making (although indirectly perhaps reflecting the mood of the government and/or the populace), it was remarkable that any relationship could be found. What also made the finding significant was that most of the events were rather mundane, such as trade treaties and divergent positions in UN debates; the correlations would likely have been higher if more dramatic incidents had been involved.

Other elites, even further removed from official policy decisions, have shown the same effect. Novelists (Porter & Suedfeld, 1993) and prominent members of other professions –- artists, musicians, scientists, etc. (Suedfeld & Bluck, 1993) –- showed significant declines in IC during years when their country was at war. So did the presidential addresses of the leaders of the American Psychological Association (Suedfeld, 1985). Other national crises resulted in similar changes, except – interestingly -- economic crises, even such serious ones as the Great Depression that began in 1929.

These studies do not test whether psychological states of non-governmental leaders in a society (as measured at a distance) predict the imminence of either conflict or peaceful cooperation: the measures were taken while the crisis was ongoing, and no attempt was made to correlate the IC findings with the historical outcome. What they do show is that war and other disturbances have a widespread effect on the eminent members of civil society.

To the extent that this effect translates into strong opinions about the government and its policies, it may in turn predict support or disaffection that may either strengthen the government's resolve to continue in its course or result in a change in that course or in the government itself. If that is true, there may be some potential predictive power in scoring magazine and newspaper editorials, novels, articles, and speeches made by members of the general population. Should the scores turn out to have predictive utility, this would be of considerable benefit, as such sources are by definition widely available. It would perhaps also provide a different kind of prediction from that based on political communications. It might, for example, provide a long-term forecast of a political ideology that may slowly permeate society, just as increased achievement motivation in children's primers predicted economic progress within a country several decades later, when those children had grown up (McClelland, 1961).

2.3.3.3 Psychological Changes and Conflict Outcomes

The evidence just reviewed shows that over time and across events, political outcomes vary as a function of dynamic psychological processes. This has important implications for the main focus of this review, the prediction of conflict escalation versus de-escalation. If psychological changes predict outcomes such as political success and changes in policy, they are also likely to predict movement toward or away from conflict.

This is precisely what researchers have found. A number of variables, measured by content analysis and monitored at a distance during international confrontations, have shown themselves to be valuable indicators of pending policy directions. As with much of the other research reviewed here, most of these studies have been done retrospectively, by examining changes in variables after the events had already occurred.

One of the most important variables to have emerged in this role is integrative complexity (IC). There is now a wealth of evidence to show that the IC of statements tends to drop as a conflict reaches the point of escalation, whereas complexity remains steady or even surges upward prior to a peaceful resolution.

In an early demonstration of this phenomenon, Suedfeld and Tetlock (1977) examined two international confrontations that ended quite differently: the 1914 crisis in Europe that resulted in Word War I, and the Cuban Missile Crisis of 1962 between the US and the Soviet Union. Suedfeld and Tetlock measured the IC of diplomatic communications among leading national decision makers in the five most involved European countries in 1914 and the two main protagonists in 1962. To measure changes in complexity during each crisis, materials were also divided by time frame (preliminary phase vs. climax phase).

The results of this comparison were compelling. The communications from the crisis in 1914 were found to exhibit lower complexity in both phases than the crisis in 1962. Perhaps even more significantly, complexity decreased from the preliminary to the climactic phase in the 1914 crisis whereas it increased in 1962. In these initial findings, less complex thinking presaged eventual conflict and changes in complexity were a clue as to the final outcome of the crisis.

These findings were then tested by a comparison of complexity levels in two sets of crises, those in each set involving the same countries and occurring within a few years of each other. This design controlled for any cultural, linguistic, and era-related differences within sets. One set was the 1911 Moroccan crisis between France and Germany, mediated by Great Britain, compared to the same nations during the 1914 crisis. These were two crises between the same countries that occurred so close together in time that they in fact engaged some of the same individual leaders. They ended very differently, the former in a peaceful trade-off and the latter in a catastrophic war. IC in the period leading to the resolution of the conflict was significantly higher in the first case than in the second. The other set of crises were the confrontations between the United States and the Soviet Union: the beginning of the Berlin Blockade and Airlift, the onset of the Korean War, and the Cuban Missile Crisis. Higher levels of complexity were again found for governmental communications leading to the two peaceful resolutions.

A study using the same approach by comparing the same countries and same leaders for two confrontations -- between Britain and Germany during the Munich and Poland crises -- replicated these findings (Walker & Watson, 1994). Similarly, a time-series analysis of the first Persian

Gulf crisis (Wallace, Suedfeld, & Thachuk, 1993) showed that a significant drop in the IC of Iraqi leaders' occurred before Iraq's invasion of Kuwait in 1990.

Integrative complexity analysis was also applied to a protracted series of recurrent crises in the Middle East between Israel and the United Arab Republic but also involving the Great Power supporters of each, respectively the US and the USSR (Suedfeld, Tetlock & Ramirez, 1977). Here, the researchers found that the varying integrative complexity scores of the UN representatives of the main protagonists (Israel and the United Arab Republic) were highly indicative of the state of the Middle Eastern situation. Speeches preceding outbreaks of interstate war by several months were persistently lower in complexity than those given during periods of relative peace. Given that twenty different time points were examined in total between 1947 and 1976, this was a remarkably consistent result. A replication, examining the half-century of recurrent wars between India and Pakistan and measuring the complexity of communications by heads of state and foreign ministers rather than UN diplomats, found exactly the same pattern (Suedfeld & Jhangiani, 2008). Both studies included a predictive component, the first one inadvertently (the paper was completed shortly before an event that bore out an otherwise apparently erroneous prediction) and the second deliberately; and both predictions were correct.

Suedfeld, Tetlock and Ramirez (1977) also found some notable points of interest with regard to the correlations of IC between countries. They found that the scores of the communications of Israel and the UAR, the nations directly involved in the conflicts, were significantly related in the sense that their complexity levels mostly rose and fell in parallel, at least during pre-conflict periods. In contrast, the scores of their supporters, the US and the USSR, differed. While American complexity scores showed a pattern similar to those of the protagonists, the USSR sometimes showed the opposite pattern. This difference may imply that the US felt more closely involved in the situation, but also that where Israel, the UAR, and the US all saw dangers in increasingly hostile confrontations, the USSR saw an opportunity.

Integrative complexity measurements have also been taken over the duration of a protracted diplomatic conflict between the US and USSR, where these nations were directly involved. Raphael (1982) examined the 1946-1962 period of unease between the US and USSR over the control of Berlin. This was a long-term dispute, whose severity went through substantial peaks and troughs. Raphael sampled public statements made by each side during this period and reported two major findings. One was that complexity scores dipped significantly before the two most serious confrontations occurring during this time period. The other was that levels of integrative complexity rose to higher levels just before each crisis was resolved. Shifts in complexity were thus much like the patterns found in other international rivalries, and highly predictive of the status of the US-USSR relationship concerning Berlin.

Tetlock (1985) has made similar observations regarding relations between the US and USSR in the period 1945 to 1983. He found that more cooperative foreign policy solutions were associated with periods of higher levels of IC, whereas competitive (confrontational) policies were linked with lower IC. The same pattern was also found in the utterances of US decision-makers in the Cuban Missile Crisis (Guttieri, Wallace & Suedfeld, 1995), the communications of South and North Korean policymakers over the period 1984 to 1994, which had distinct phases of tension building and co-operation between the two countries (Koo, Han & Kim, 2002), and the negotiations of the Mexican government with the Chiapas guerrillas (Liht, Suedfeld, & Krawczyk, 2005).

These cases show that a decrease in complexity does not necessarily presage armed conflict, especially if there is a subsequent IC upturn. In other words, a drop in complexity indicates increasing crisis severity but does not necessarily predict a violent outcome. Raphael (1982) suggests that in light of this, it may be more informative to look not only at changes in integrative complexity but also the rate or magnitude of change over time. It does appear that faster rates, prolonged duration, and/or very drastic changes in IC may be more important in predicting the eventual action taken by a decision-making group than a slower, briefer, or smaller rise or drop that can accompany a generally improving or worsening state of affairs. So far, this possibility remains untested.

One might ask at this point, given that there does appear to be a clear relationship between complexity reduction and the outbreak of conflict, whether or not monitoring complexity would add any predictive power to that provided by simply observing a situation. Suedfeld and Bluck (1988) have tested this assertion by examining complexity levels in the communications of protagonists in the five years preceding surprise strategic attacks. In all nine surprise attacks that the researchers examined, the country on the receiving end of the attack had failed to predict the actions of their adversary. However, in eight of these cases, the average complexity levels found in communications of the eventual attacker -- but not the eventual victim -- evidenced a major drop two months to two weeks prior to the attack, despite there being no explicit sign of warlike intent such as threats of imminent war, general mobilization, or major troop movements. Just as interesting were the complexity levels in the communications of the attacked country. These actually increased shortly prior to the attack, presumably reflecting an unreciprocated search for a peaceful resolution. Similarly, the content of UN speeches about the Middle East during periods of decreasing IC showed increasing protestations of peaceful intent by representatives of the eventual combatant nations (Suedfeld et al., 1977). Clearly, integrative complexity analyses can disclose subtle psychological shifts that are not obvious from other types of observation.

Taken together, the divergence in the complexity of the attacker and attacked found in Suedfeld and Bluck's (1988) examination of surprise attacks, and the finding that Arab and Israeli communications fell and rose in unison during confrontation and compromise (Suedfeld et al., 1977), show that the psychological relationships between two sides may be just as important as their individual psychological states. Investigating these relationships requires a more detailed and focused step-by-step analysis of communications between the two parties.

A recent study has done precisely that. Liht et al. (2005) examined the negotiations between Chiapas rebels and the Mexican government in 1995 by measuring complexity levels in the verbatim transcriptions of the discussions. As mentioned earlier, they found that daily progress in the negotiations was positively related to increases in the day's levels of IC, presumably indicating the willingness of both sides to search for a solution. More interesting, though, was that the complexity levels of the guerrillas were responsive to shifts in government complexity levels, but not vice-versa. Thus, we have seen three patterns of bilateral complexity change: parallel (e.g., the 1911 and 1914 cases, the Israeli-Arab case), opposite (the surprise attacks study), and asymmetrical (the Mexican example). It seems obvious that the determinants and implications of these different patterns are worth exploring in the future.

Integrative complexity is not the only measure of cognitive complexity that has been used to predict fluctuations in aggressive vs. cooperative strategies over time. Maoz and Astorino (1992), for instance, developed a measure of cognitive complexity derived from Axelrod's cognitive mapping technique (1973, 1976). Relationships among concepts are identified in texts and

represented in a matrix from which a total of four different complexity indices can then be calculated. Maoz and Astorino used this technique to measure the structure of Anwar Sadat's thinking during a tumultuous period in the relationship between Egypt and Israel (1970-1978). Time-series regression analysis showed that Sadat's estimated cognitive complexity (taken from his verbal responses for individual quarter-year periods) significantly predicted the number of co-operative Egyptian actions that occurred in the subsequent quarter year. During this time, relations between Egypt and Israel fluctuated, from stalemate through war and withdrawal to peace, and the number of individual co-operative acts by Egypt toward Israel varied considerably. The structure of Sadat's thinking seemingly accounted for a significant portion of this variation.

This finding was preceded by a study linking the same measure of cognitive complexity to pro-war and pro-peace arguments made by Israeli prime ministers. Maoz and Shayer (1987), analyzing 21 speeches made in the Knesset by four Israeli prime ministers, reported that justifications advanced for peaceful policies (e.g., the Israeli agreement to withdraw from the Sinai, signed in 1979) were more cognitively complex than justifications for violent steps (e.g., the Six-Day War). This systematic variation in complexity was found both across and within Israeli prime ministers. Each individual would argue more complexly for peace relative to war, regardless of his general propensity for presenting complex arguments.

Together, the foregoing studies show that complexity changes within an individual over time, even when measured by disparate methods, are a reliable indicator of policy intent. Decreases in complexity are a reliable precursor to taking more implacably aggressive policy stances and to a heightened probability of initiating military action. Movement to high complexity precedes more open-minded, peaceable policy shifts that are more likely to lead to compromises than war.

However, the evidence for this dynamic relationship between cognitive processing (however it is measured) and foreign policy is not totally free of ambiguities. For instance, Levi and Tetlock (1980) found in their examination of the Pearl Harbor attack that internal Japanese documents revealed no discernable decreases in IC levels (compared to baseline) just prior to the attack. They found instead that complexity levels were dependent upon the addressee of the communication. When plans were being formulated in private, communications were less complex than when they were presented to the Emperor for approval. Evidence for the complexity's predictive capability was not forthcoming in this case.

In Maoz and Astorino's (1992) study of Egyptian-Israeli relations, it was found that in contrast to Sadat's speeches, those of Israeli prime ministers did not predict subsequent acts of co-operation on Israel's part. The authors offered the explanation that perhaps the fluctuations in an individual's cognitive complexity were not as important in the Israeli political system (where individuals may not have a great degree of impact) as in the Egyptian system, where Sadat had enormous individual say in foreign policy. This is not inconsistent with the previous findings that the IC of Israeli communications did vary with the evolving Middle Eastern situation between Israel and Palestine (Suedfeld et al., 1977). In that study, the texts being scored were speeches by representatives in the UN General Assembly, presumably reflecting the majority or consensual view of the Israeli leadership rather than that of any one person. It is possible that the IC of Israeli prime ministers scored by Maoz and Astorino was influenced more by issues that were unrelated to Egypt, whereas Egyptian-Israeli relations had a more central role in Sadat's thinking. The cognitive manager hypothesis (Suedfeld, 1992) asserts that relative importance within the total set of concurrent problems is a major influence on the level of IC with which any particular

problem is addressed. Had Maoz and Astorino scored the IC of both Sadat and his Israeli counterparts domain by domain, this possibility could have been tested.

Overall, it seems that cognitive complexity, as measured by various methods over time, is a reliable indicator of intent. However, it is certainly not the only factor that should be taken into account when making predictions. Other psychological variables may also prove to be useful in making predictions when monitored over time.

One such variable is power motive imagery (Winter, 1973). As summarized in Section 2.3.2, power motivation has a strong connection to the onset of war and is generally associated with a more aggressive leadership style. However, power imagery also varies within individuals (and institutions) over time, as was previously described for Bill Clinton (Winter, 1996). Changes toward higher levels of power motivation in the foreign policy arena therefore should predict foreign policy aggressiveness. In fact, this is precisely what has been found.

Winter (1993), for instance, reported that a consistent pattern of higher power motivation relative to affiliation motivation preceded war through approximately four centuries of British political history. Winter scored the annual Sovereign's (currently Queen's) Speech from the Throne for motive imagery over the period 1603 to 1988, for as many years as there were annual speeches made and recorded during that period. The Speech from the Throne reflects the concerns and decisions of the highest policy-makers in the country: the monarch in the earliest times, and the Prime Minister and cabinet more recently (the monarch delivers the speech, but is only the reader, not the author). In years when Britain was at peace but moved into war during the following year, power imagery was at its highest relative to affiliation imagery, even higher than during actual war years. Because of the time lag between the speeches and Britain's involvement in war, this pattern suggests, although it does not firmly establish, a causal rather than a merely associative relationship. In addition, Winter found that the end of war was reliably preceded by a drop in the level of power motivation.

This model of power imagery rising relative to affiliation before a war and dropping toward the end of a war was also found to hold true for the specific case studies of the outbreak of the First World War and the Cuban Missile Crisis. In the former case, Winter (1993) examined the direct communications between Germany and Britain during the pre-war crisis period. Power imagery relative to affiliation rose significantly as the crisis moved closer to war. Thus, a change in relative power motivation scores in even a short period correctly predicted that the crisis would escalate to conflict. In the second case, direct communications between the American and Soviet governments showed the opposite of this pattern. Early communications evidenced higher relative power imagery, which dropped considerably toward the end of the crisis up to its eventual resolution by compromise. It seems, then, that changes in motive imagery as measured in decision-makers' communications give forewarning of subsequent developments "on the ground," in either a bellicose or a peaceful direction.

2.3.3.4 Summary of Section 2.2.3

There are two important elements in the evidence presented in this section. First, it is clear that leaders' expression of psychological characteristics can and does change over time. Second, these changes have clear implications for the leaders' foreign policy. Changes in integrative complexity, power motivation, and optimism have been convincingly shown to precede and accompany significant shifts in political strategy, and some evidence exists that changes in beliefs

share that characteristic. Shifts to lower integrative complexity, higher power motivation, and greater explanatory optimism indicate an impending move toward more aggressive policies. In contrast, when leaders' verbal output conveys higher complexity, higher affiliation imagery, lower power motivation and more pessimism, the leader is probably shifting toward a more co-operative or conciliatory political stance. An understanding of these systematic shifts could readily be used for predicting developments in international relations. Societal indicators, based on psychological changes in society as measured through proxies such as popular literature, may also in time prove to be useful.

Predictions based on years (or decades)-old measurements of leader characteristics are vulnerable to serious error. As Winter (1996) found in the case of President Bill Clinton, some leaders – and thus their motive profile -- can adapt rapidly to the requirements of developing circumstances, thereby profoundly affecting the accuracy of predictions made before the situation changed. To reiterate, a measured personality orientation is analogous to a snapshot and is not necessarily constant, meaning that its effect on foreign policy is not constant either.

In conclusion, monitoring psychological changes allows the researcher or analyst to anticipate policy changes, especially as the psychological changes are usually present in a leader's language before they are manifested in behaviour. Moreover, given that the monitoring of current psychological states is by definition always up to date, the interpretation of changes can always be made in the current context. This adds considerable predictive power because there is no need to presuppose what situations a leader will face – he is confronting them as he issues his statements. A combination of measures, assessing the levels of several variables simultaneously, as in the measurement of integrative complexity and either explanatory style or motive imagery, may yield better results than any one alone. What is required now is a number of real-time applications of these measurements to test conclusively whether such predictions are both feasible and helpful. So far, this has not been established. However, the retrospective studies, where measurements are made from material produced by protagonists prior to and during events whose outcome is already history, suggest that success is possible.

2.3.4 Comparing the Profiling and Dynamic Approaches

Two potential approaches to making predictions have been reviewed up to this point, but which is likely to be more fruitful for predictive purposes is a subject yet to be decided. There is no clear-cut answer to this question. However, what can be determined, by briefly comparing the two approaches, is what the precise strengths and weaknesses of each approach are. This is the subject of the final part of this section.

Each approach has some particularly attractive assets, some of them in common. For instance, both approaches focus on leaders directly, and so glean information from an – if not the most -- important factor in any foreign policy decision. All other distal factors (e.g., economic, cultural), no matter how influential, have their effect only through these important figures. That these methods take into account the influence of such individuals is a feature of these approaches that sets them apart positively from approaches that ignore micro-level factors.

However, there are other advantages that are not shared by both approaches. Using the profiling approach, for instance, one can make an immediate assessment of a leader's personality, based on all of his previous utterances. This assessment needs only to be done once and would contain all the information required to make a profile, a process that has now been made much faster through

the use of computer software (see Hermann, 2006, 2008; Walker, Schafer, & Young, 2006; Young, 2000). Moreover, comparisons with the profiles of other leaders can render the profile meaningful and make at least some general long-term projections possible.

This contrasts favourably with the dynamic approach, which must make continuously updated measurements. In addition, baseline measurements for the dynamic approach, deviations from which could then be detected, would need to be established across a potentially long time-frame or at least calibrated across a number of events. This is so that any shifts found could be interpreted meaningfully for the target. This is clearly more laborious process, as certain leaders may shift frequently, even in connection with minor events or nonpolitical factors, and the size and timing of changes in a psychological variable may have to be interpreted in light of a baseline for the individual.

However, the practical difficulties of using the dynamic approach are outweighed by its benefits. The process of monitoring leaders over time means that analyses will always be up to date and no assumptions about a leader's trait stability need to be made. Also, because dynamic sampling tracks psychological changes as events unfold, the interpretation of data can be made in the current context. As the political situation changes, concurrent measurements of psychological characteristics reflect how the decision-makers' information processing, motivational and belief systems, and attitudes are affected. There is no need to make assumptions about the relationships between personal and situational variables.

On these characteristics, dynamic approaches are superior to profiling, where once a profile is constructed, there is little contextual information immediately available to guide predictions. The situations that a leader could face must also be predicted or else referred to in the most general terms. This means that predictions for the profiling approach are necessarily vague. Moreover, if a profile indicates that a leader is likely to be highly flexible (i.e., "context-sensitive," Hermann, 1987, 2006) it is almost impossible to make concrete predictions from the profile alone. Even more difficulties arise if the leader does not score clearly within any orientational category. Then, scoring renders little predictive direction. It is also true that to accept the mutability of the processes measured for the profile, and to incorporate their changing values in revising the profile, moves the method into the dynamic category. The theory-based dichotomy between the two approaches becomes a matter of degrees of difference and a fuzzy border.

Scientists working from the dynamic model take seriously the analogy with state-trait anxiety (and other emotional variables). For example, IC theory recognizes that every individual has a relatively stable baseline level of complexity, termed "conceptual complexity" after Schroder et al. (1967). However, just as someone who is chronically low in anxiety will in some situations become more anxious (or the converse), so the current structure of thought, IC, is determined by the impact of circumstances on that baseline. Profile measures are most useful when we want to predict a person's probable level of complexity in a novel situation for which we have no analogous source of information, and when we want to predict his propensity for complex thinking over a range of highly variable events and a long period of time. For predictions of decision-making in particular kinds of circumstances, or to track the course of cognitive processing during a developing situation, the dynamic approach is more promising. Actually, measurement in the dynamic sense – repeated sampling and scoring across different events and times – may also be the best way to establish comparatively invariant tendencies: i.e., profile measures.

The profiling and dynamic approaches share some important commonalities, but also have important differences. Both look at leaders directly, but with rather different (although sometimes overlapping) foci. Both approaches are built upon the inclusion of micro-level factors that are ignored or de-emphasized by disciplines other than psychology. Neither, however, satisfies all of the criteria for an ideal predictive model. They share similar methodological difficulties that must be dealt with if their predictive power is to increase. What will ultimately winnow out these approaches is their performance in real-time predictive tests, which in turn require the use of objective quantifiable dependent measures that can statistically support or disconfirm predictions. These measures are already available but not always used, partly because of the hotly debated methodological issues involved.

One additional comment, specific to measures of complex thinking, is that the scoring of IC requires preliminary training and is quite labour-intensive; in contrast, Hermann's cognitive complexity scoring is fully computerized. It should be remembered, however, that the two procedures do not score the same aspect of cognition.

Some of the shared problems are inherent in the use of content analysis methodology. A special issue of the journal *Political Psychology* has already been devoted to these conundrums (see Schafer, 2000; Walker, 2000) and they should be highlighted because they can endanger the accuracy of predictions.

2.4 Methodological Problems of Content Analysis

The encouraging results and increasingly convincing arguments for using assessment at a distance should not blind the reader to several uncertainties and possible problems that need to be resolved through targeted research. In this section, we discuss the most serious of these.

2.4.1 Possible Confounding Factors

The first issue is that measurement of psychological characteristics can be affected by numerous circumstances that may have nothing to do with the leaders' intrinsic personality or their reaction to the situations that are of interest to the research team. These confounding variables may include:

- Whether oral utterances of the leader are spontaneous or prepared (written ones of scorable length are always prepared);
- Whether a statement is intended to be public or private;
- The intended audience of the statement;
- Whether the identified source of a message really did originate it;
- Whether it is valid to score translations when no qualified scorer is fluent in the original language.

The evidence is inconsistent as to whether scores on the variables examined in this section are affected by the factors listed above. Some researchers have been very specific about what kind of materials should be used to measure personality characteristics. With respect to the issue of spontaneity, Dille and Young (2000), Dille (2000), and Schafer and Crichlow (2000) found that measures of conceptual complexity and operational code systematically vary as a function of

whether remarks are spontaneous (e.g., answers to questions at a press conference) or prepared (such as a major policy speech).

With respect to the public-private dimension and the intended audience, Marfleet (2000) found that John F. Kennedy's privately and publicly expressed beliefs differed, and Walker and Watson (1994) found an effect of intended audience (whether communications were for internal or intergovernmental use) on integrative complexity scores in a comparison of the Munich and Poland crises. Although theirs was not exactly a private vs. public comparison, Levi and Tetlock (1980) reported different levels of integrative complexity when Japanese political and military leaders discussed the planned attack on the United States *in camera* versus when they presented plans to the Emperor. On the other hand, a number of studies have reported no significant differences between integrative complexity scored from such materials as diary entries and letters to family compared to official memoranda and speeches (e.g., Suedfeld & Rank, 1976; see Suedfeld et al., 1992).

The question of the "real" source is often raised. Suedfeld and Tetlock (1977) scored writings unquestionably created by the identified source and compared them with others whose actual authorship was uncertain (e.g., the Czar's handwritten notes in the summer of 1914 versus others that could have been written by ministers or diplomats and attributed to the Czar), and found no significant differences in integrative complexity. Statesmen prominent enough to have speechwriters typically select those who think and write compatibly with their employer, and also tend to demand changes or a total rewrite if a speech does not fit their own preferences (see Frum, 2003). There is no evidence of serious divergence between these two kinds of documents.

For the most part, the same is true of translations. Official translators, employed by governments, the United Nations, etc., produce texts whose integrative complexity level faithfully reflects the original (Suedfeld et al., 1992). A multilingual research group that compared written materials in German, Russian, and Spanish with official translations found no significant differences. There may have been differences based on language or expressive style (e.g., Arab UN statements were consistently less complex than Israeli and American ones, Suedfeld et al., 1977), but these were reflected in the translations.

These findings leave a number of unanswered questions. Are public materials less valid for predictive purpose than private materials? When studying major leaders, are there in fact such things as private materials? Tetlock has argued (private communication, n.d.) that such individuals usually bear in mind that their most private writings may someday appear in biographies and histories. Do spontaneous comments reveal the true aspects of a person's personality while prepared statements for specific audiences simply reflect attempts to conceal or modify that reality? Although some researchers (e.g., Hermann, 1980a, 2006; Satterfield, 1998; Weintraub, 1986) have argued that spontaneous remarks, for example, are better suited to providing valid personality estimates, this is difficult to prove. Moreover, as summarized above, some researchers have found no evidence that the psychological indices found in spontaneous remarks differ from prepared remarks. Even if they did differ (as has been shown in some studies), this need not render prepared responses invalid as psychological indicators. They may reflect the more detailed and leisurely thought processes made possible by the opportunity to prepare and presumably reconsider one's responses.

There are, however, more facets to power motivation that should be considered. Two studies by Winter (1987a, 2003a) have found that in addition to the general increase of power imagery in communications prior to the commencement of armed conflict, there is also an asymmetry in the

power imagery depending upon which side is the subject of the message. Communications preceding increasingly severe crises contained more power imagery in references to the enemy, but not in references to one's own government. Interestingly, this asymmetry was not constant across time: it emerged only when the crisis reached its tipping point. During the early, relatively mild stage of the crisis, no such asymmetry was found in the use of power imagery. Interestingly, this change was not limited to media and public communications (which may simply reflect the deliberate caricaturing of an opponent), but in private communications as well. Indeed, this was so for communications even when the sources were individuals who unambiguously desired a peaceful outcome.

Affiliation imagery has been associated with peaceful strategies. As mentioned above in describing Winter's (1993) study of the relationship between Speeches from the Throne and armed conflict, lower affiliation imagery (albeit in combination with higher power imagery) was a significant predictor of subsequent conflict. However, another study (Langner & Winter, 2001) has evaluated the role of affiliation imagery in isolation from power imagery. It found that there may be a direct relationship between affiliation imagery and subsequent strategies of compromise and concessions.

The authors established this connection by dividing the crises into smaller chronological segments and then scoring for the presence of affiliation imagery in archival materials from two sets of paired crises. The first pair comprised Nazi Germany's demand to annex the Sudetenland, acceded to by the other Great Powers, and its later threat to occupy Poland, which when carried out (in collaboration with the USSR) sparked World War II. The second pair concerned the attempted invasion of Cuba at the Bay of Pigs and the following year's peacefully resolved Cuban Missile Crisis, both of which involved the US and the Soviet Union. In addition to motive imagery, the authors scored message content for individual acts of "concession-making." That is, not only was the overall outcome of each crisis known, but in addition the frequency of offered concessions before the final outcome was identified.

Although Langner and Winter's (2001) results indicated a significant positive relationship between affiliation imagery and concession-making, and a parallel negative relationship between power imagery and concessions, there were several problems with the analysis. Critically, there was some shared method variance between scoring for affiliation imagery and scoring for concessions. Many passages in the material could have been scored for either variable. This is of particular concern because it leads to circularity in testing the inference that higher affiliation imagery scores predict the willingness to make concessions.

The second part of the same study, which examined the relationship between motive imagery and the protagonist's responses to offers of conciliation, had clearer results. To examine this, the experimenters took to the laboratory. Documents from the Cuban Missile Crisis were given to 118 students, who were instructed to study them and become familiar with the historical context of the event. Participants were then given one of four versions of a doctored letter from Khrushchev. The versions varied in the level of motive imagery and the number of concessions offered in each document, as had been measured in the first part of the study, making a 2x2 factorial design. Participants were asked to write a letter in response, taking the role of President Kennedy. Their written responses were content coded for motive imagery, concessions, and aggressiveness. They were also asked to fill out a questionnaire on appropriate US reactions, indicating whether they agreed or disagreed with each available option (e.g., all-out attack vs. complete submission).

Participants' responses on the questionnaire and in their letters varied from high aggression to complete conciliation. As expected, participants reciprocated in kind to the content of "Khrushchev's" letter, a finding that highlights the interactive nature of conflict escalation and resolution. This finding serves to underline the importance of the additional insight that can be gained by looking at the psychological processes of both sides as they communicate with one another, and extends the findings of Liht et al. (2005) to a situation where the two protagonists were more or less equally powerful.

Motive imagery, it seems, is useful in the dynamic approach to making predictions as well as in profiling. As with the profiling approach, attention needs to be paid to relationships between variables as well as to whom or what the imagery is directed. Making more specific measurements taking the latter point into account may add considerable weight to predictions. The combined measurement of integrative complexity and motive imagery could be an even more powerful predictor than either by itself. However, as yet no real-time predictions have been made that combined these variables as indicators of intent.

Another variable that might be added to this list of useful predictors is explanatory style. Leaders' level of optimism and pessimism has been shown to fluctuate in a systematic manner that suggests prior to foreign policy decisions how hard-line the emerging policies are likely to be. Satterfield and Seligman (1994) derived measures of optimism and pessimism from spontaneous comments made by George H. W. Bush and Saddam Hussein in advance of a number of their foreign policy decisions, which varied in risk and aggressiveness. Relatively pessimistic statements by either leader were more likely to be followed by cautious foreign policy decisions (e.g., withdrawing troops, making concessions), whereas an increase in the level of optimism in public statements preceded more aggressive and risk-laden strategies (e.g., a military attack).

Measures of explanatory style may indicate an excessively risk-averse or excessively risk-prone state of mind, but could also reflect an accurate assessment of the chances of success or failure; neither alternative is assumed. However, regardless of the reason for greater optimism or pessimism, modifications of explanatory style do appear to have potential utility for predicting the subsequent degree of forcefulness in foreign-policy decisions.

Satterfield (1998) has tested this predictive utility even further, this time by combining integrative complexity with explanatory style to predict aggressive and risky foreign policy decisions. Four political leaders were examined: Adolf Hitler, Josef Stalin, Franklin Delano Roosevelt, and Winston Churchill. As in the earlier study, ratings of aggression and risk in foreign policy decisions were coded separately from the IC and explanatory style scores in pre-decision communications by the leader (speeches, private letters, and diary entries). Up to 36% of the variance in the level of aggression was explainable by the combination of complexity and explanatory style measurements. The interaction between the two independent variables was also significant. Considered together, the two psychological variables formed a useful measure of aggressive intent.

One drawback of this study as far as prediction is concerned was that much of the material was extracted from private correspondence. Statesmen's personal letters and diaries are not likely to be available for scoring until after -- often, long after -- a significant political event of interest had occurred. On the other hand, the use of such materials greatly reduces the possibility that changes in the psychological variables are merely productions of impression management. Nevertheless, it would be desirable to test this model again, using publicly available materials.

As it is, the findings reviewed above illustrate how a combination of content analysis variables, drawn from different subfields of psychology (in this case, clinical, social, and cognitive psychology), can be used effectively in prediction. Each variable adds unique predictive power to the final outcome. It would be worthwhile to replicate, in one study looking at a particular set of leaders and situations, the finding that increases in power imagery and optimism, combined with decreases in integrative complexity, predict aggressive intent, while the opposite pattern signals forthcoming co-operation.

2.4.2 Selecting Sources

Another methodological puzzle, which involves both the profiling and dynamic approaches, is the choice of people whose productions are to be scored. Just who are the decision-makers in a particular situation? How important is it to identify them, as opposed to scoring senior advisors, influential friends and family members, or the lower echelons who can implement, modify, or ignore decisions made at the highest level? This is a question that Hermann and Hermann ask (1989) and consider in their profiling work. If persons with little influence are selected for scoring, measurements may be highly misleading. This is perhaps a more difficult task than it may first seem.

For one thing, the psychological processes of close advisors of the leader may differ significantly from those of the leader, as well as from each other. Walker and Schafer (2000) found such differences in the operational codes of President Lyndon B. Johnson and his advisors. Although in this case the differences were not dramatic, in other instances they might be, especially if the leader draws from a broad base of advisors. When this is the case, the researcher has to make important judgments as to who should be the focus of the scoring. In some cases, it may better to focus on advisors, especially if the leader is very dependent on them.

Some leaders may take centre stage but be figureheads or spokesmen whose own psychological processes are largely irrelevant to important foreign policy decisions. For instance, news reports often give the impression that Mahmoud Ahmadinejad, Iran's president from 2005 to the date of this review, is the key political decision maker in his government. However, at least one authority on the matter, Middle Eastern CIA operative Robert Baer, has insinuated to the *BBC* that Ahmadinejad's influence on Iranian foreign policy is at most minor and that, in his words, Ahmadinejad is probably "crazy" (HARDtalk, 27 July 2008). Even the most visible and high-ranking figures may not have the influence one might assume.

As evidenced in many of the studies reviewed in this paper, the effect of personality on decision-making can extend well beyond the proposed leader. It can be influenced by the personalities of anyone who participates in making decisions. Influence may even come from outside the state apparatus. For example, some researchers have begun to focus on the leaders of non-governmental organizations (e.g., Kille & Scully, 2003), and some studies have scored eminent figures in such supranational authorities as the UN, NATO, and the European Union (e.g., Wallace, Suedfeld, & Thachuk, 1993). Researchers must consider the distribution of influential participants in modern international relations. In democratic countries, this even includes the electorate, which chooses its leaders and can both directly and indirectly affect policies –- see, e.g., the fate of Lyndon Johnson and of South Vietnam in the wake of America's widespread public opposition to continuing the Vietnam War. Deciding whom to profile or monitor is therefore a difficult choice that should be given very serious consideration.

2.4.3 Testing Hypotheses and Predictions

Yet another issue arises with regard to how it is best to confirm or refute one's predictions. For instance, many of the studies reviewed here do not use quantitative analyses to make inferences regarding the accuracy of their predictions. One example of this is Winter et al.'s (1991b) assessment of their earlier predictions regarding George H. W. Bush and his Russian counterpart, Mikhail Gorbachev. As noted previously, the difficulties that arose when confirming or refuting their earlier predictions came as a result of the vagueness of these predictions, which in turn were due to a lack of situational awareness. However, if researchers are to make a convincing argument that their predictions are valid, then some solid quantifiable results may be required, even though clear-cut outcome measures may not be available.

How might such confirmation be obtained? Some researchers, such as Satterfield (1998), have developed their own scales for the measurement of aggression shown in leaders' actions and predicted by the researchers' variables of interest. Other scholars have sought to test their predictions by using quantitative dependent variables developed by political scientists. Crichlow's (2005) use of Goldstein's (1992) scale for measuring the degree of co-operation or aggression expressed in political events is one such example. By using Goldstein's scale, Crichlow was able to (1) statistically describe the relationship between a leader's operational code and the aggression shown in his policy preferences, and (2) test the statistical significance of this relationship. Examples such as these support the argument that the assessment of predictions requires quantitative data, perhaps with the exception of predictions that are unambiguous and dichotomous (e.g., peace vs. war).

Except in terms of such large-scale and dichotomous outcomes, measuring the aggression or cooperation implied by political events is not a straightforward task. Conflict has three chief dimensions: the type of events (e.g., military actions versus sanctions), the number and frequency of events (e.g., how many different negotiating positions or military strikes), and the magnitude of events (territorial concessions, casualties, scale of destructiveness). Coding for all these validly and reliably represents a practical difficulty to say the least.

Exacerbating this initial problem is the question of how to aggregate data over time. There is considerable variety in how conflict data are aggregated and analyzed. As Shellman (2004) has pointed out, the decision regarding how to aggregate data for time series analysis can be quite arbitrary. However, the decision can have a powerful effect on the results. Shellman recommended aggregating the conflict indices at multiple levels to ensure that conclusions remain ostensibly similar, even in spite of the arbitrary methodological decisions. He also suggested that other forms of aggregation be used where appropriate. For example, in analyzing interactions between two parties, it may be more appropriate to aggregate the data in terms of "turns," where a turn is defined as an uninterrupted series of actions by one side before the other side acts. Such a scale may be attractive, but requires that the researcher be confident about the identification, number, and order of events that define each turn. Otherwise, a method such as this is unreliable across researchers, as well as being susceptible to error.

Much of the research has combined the use of quantitative dependent variables with qualitative definitions of the real-life outcome. Shannon and Keller (2007), who looked at international norm-breaking propensities in Bush administration officials, determined which individuals were most in favour of "international norm-breaking" by reading journalistic accounts of the activities of those individuals. They did not assign numerical values to norm-breaking, thus making it

impossible to use any reliable statistical procedure to establish the relationship between personality and norm-breaking. That relationship was assessed inferentially from media reports, inferences that are highly susceptible to both journalistic and researcher selection or bias.

This is not a criticism of Shannon and Keller (2007). In fact, one can sympathize when one considers how difficult it is, in this particular case, just to define the term "international norm" (see Finnemore & Sikkink, 1998 for an illustrative discussion). Going on to develop a scale for such an ungraspable, ill-defined concept would seem an almost impossible task. Indeed, some researchers have argued that no scale can reach the levels of precision and objectivity that could fairly capture the nuances of either conflict or co-operation, let alone an even more subtle and vague variable such norm-breaking (Goldstein, 1992).

Other researchers have created or adopted quantitative outcome measures that appear to be useful, although they require further testing. Keller (2005b, reviewed above), for instance, measured the relationship between personality characteristics and preferences for an aggressive foreign policy by using the frequency of violent responses in international crises and performing a statistical analysis of the relationship between the two. This rendered some startling results, which were quite compelling because the statistical significance of the relationship could be tested.

Thus, it seems senseless to completely ignore the possibility of quantifying conflict or other subtle outcome measures simply because the scores may only be approximations. After all, although predictions derived from qualitative analyses have had some major successes (see, e.g., Post, 2007), they are also – and perhaps even more -- subject to error, susceptible to researcher bias, and open to incorrect interpretation. Overall, and as with many aspects of social scientific research, the use of quantitative variables supported by informed checking of the validity of the measurements is likely to provide an optimal combination of the two methods. Certainly, it is difficult to see how the predictive utility of outcome measures could be assessed without at least some statistical testing, which always requires some form of quantified variable.

2.4.4 Combining Psychological and Other Perspectives

Last, one might ask how psychological approaches are to be used in conjunction with other approaches. As Pettigrew (1998) has argued, applications of micro-level psychological theories should ultimately be integrated with macro-level analyses that include the perspectives of political scientists and others. Clearly, this is a wise suggestion if each level of analysis can be shown to strengthen the validity and predictive power of the other.

One potential avenue for linkage between psychology and political science is for psychological approaches to be used together with rational choice approaches (e.g., Bueno De Mesquita, 2002; Brams, 1994). For instance, Leng and Walker (1982) have noted that optimal strategies developed from formal game theory are not always (or even often) followed by political actors. When the assumptions of formal games are broken, the outcome can be unpredictable. However, by using psychological indicators of intent, it may be possible to test some of these assumptions directly, particularly with respect to the motivations or mindset of the political actor.

This combined use of psychological and game theoretical perspectives has already been attempted in studies by Devlen (2006) and Walker and Schafer (2007), with some degree of success. These researchers have applied operational code measurements to the decisions made by leaders, in combination with Bram's (1994) theory of moves, a theoretical framework that

attempts to reduce complex decision-making to a simple series of strategic moves between conflict and cooperation. The expected rational choice (and therefore predicted course of action) in "theory of moves" games is fundamentally dependent on the perceptions and desires of the political actor involved, because these determine the starting point of the game being played (e.g., whether the leader sees himself as being dominant or dominated). Usually these perceptions are simply assumed in advance, using the intuition or best guess of the researcher. In contrast, these studies used operational code analysis to examine the *actual* perceptions of actors.

Using such a strategy, the starting point of each "game" (see Brams, 1994) was determined empirically, using the leader's operational code measurements, rather than being based on the researchers' intuitive or theory-based assumptions. From this starting point, each formal and mathematically determined Theory of Moves game could then be played out to a decision outcome in the knowledge that the starting points had been derived directly from the leaders' own statements. This method succeeded in bolstering the theoretical explanations of the political actions of Slobodan Milosevic (Devlen, 2006), and of Woodrow Wilson and Theodore Roosevelt (Walker & Schafer, 2007) by helping to remedy any initial faulty assumptions made by the researcher.

Elsewhere, Mumford and his colleagues (2008) have also integrated different types (or in this case, "levels") of analysis. For example, they sought and found indicators at both the environmental and individual levels that helped distinguish violent ideological groups (i.e., terrorist groups) from non-violent groups. Environmental factors such as social fragmentation and individual factors such as sensitivity to an opposing leader's unjust behavior were shown to raise the likelihood that a group would be violent and ideological.

It is clear from studies such as these that causal questions concerning political violence can be addressed at the group and individual level simultaneously. There is no reason, therefore, why macro-level predictors of political behavior cannot be viewed together with micro-level predictors, as Pettigrew envisioned. However, it remains to be seen whether the predictive use of such hybrid approaches will develop to any significant degree, and to what extent the results will be superior to predictions from one or the other level.

Conclusions

This review has attempted to summarize the leading evidence for the potential use of micro-level psychological variables, assessed at a distance, to explain and predict the decisions of political figures. The review focuses on theories and studies that deal with the role of individual differences in political decision-making, use quantitative rather than qualitative methodology, address the mental states and behaviour of actual participants rather than role-playing analogues, and have at least the potential of being useful in predicting future decisions and events rather than being limited to explaining past events.

In the field of political psychology, two broad approaches have been used to explain the role of leaders' personalities in making decisions and so, by extrapolation, are potential approaches to making predictions. The first of these, the profiling approach, is based on the concepts that (1) the personality of leaders has both direct and indirect influences on decision-making, (2) personality is composed of temporally and situationally stable traits, (3) those traits can be measured from the verbal productions (written and oral) of the leader, and (4) the resultant scores can be used to predict the leader's information processing and decision preferences in a variety of situations and across time. By contrast, the dynamic approach concentrates on how a leader's personality characteristics interact with specific circumstances to lead to decisions that reflect the individual's state of mind (including cognitive, emotional, motivational, and attitudinal variables) at the time the decision is made, rather than his stable traits *per se*. In the dynamic approach, therefore, predictions are made by monitoring shifts in a leader's psychological state over time.

Within each approach, several variables emerge as prominent indicators of adversarial or cooperative intent. High power motivation, low cognitive complexity, distrust in others, a Hobbesian belief system, and the optimism to act on one's belief indicate that the use of more aggressive strategies is likely. On the other hand, high affiliation motivation, high cognitive complexity, low power motivation, high achievement motivation, and a distinct pessimism about one's ability to effect change all appear to indicate that more cooperative strategies will be preferred.

Each of these approaches has advantages and disadvantages. Profiling can produce meaningful data about relevant aspects of a leader's personality, but those data do not reflect psychological change over time or from situation to situation. Long-term prediction is feasible, but the predictions are general rather than specific. The dynamic approach is more likely to use labour-intensive methods, but produces data that can be used to make specific predictions about ongoing and imminent decision processes (although it does not allow for categorical statements about a leader's personality and thus tends to be less popular with the mass media).

The two approaches share some important methodological problems, involving the selection of subjects and relevant verbal materials, possible biases on the part of researchers, and the difficulty of clear tests confirming or disconfirming hypotheses and conclusions. Some of these derive more generally from the use of content analysis as a methodology.

Some scholars have moved toward combining the two perspectives so as to generate both short- and long-term predictions, measuring personality traits but incorporating measures of change as well, using the state-trait model as their basis. Such work promises the best of both worlds, but at this point needs more theoretical clarity and empirical data.

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List of symbols/abbreviations/acronyms/initialisms

DND	Department of National Defence
DRDC	Defence Research & Development Canada
DRDKIM	Director Research and Development Knowledge and Information Management
R&D	Research & Development

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(U) This paper reviews psychological theories and quantitative research aimed at the explanation and prediction of decision−making by national and sub−national leaders. Inferences of the strategic intentions of leaders are based on the “assessment at a distance” of both their stable and changing cognitive, motivational, and emotional processes. The review evaluates profiling approaches, which develop a portrait of the subject’s personality as the source of strategic predispositions, and dynamic approaches, which measure selected psychological variables activated in particular situations at specific times. Both approaches identify psychological factors correlated with tendencies toward competitive vs. cooperative behaviour in conflict situations; the dynamic approach in particular can be used to monitor real−time changes that forecast the direction of the leader’s decision−making. The outbreak of war, including surprise attacks, is reliably associated with reduced complexity in the structure of information processing, increased power motivation as compared to affiliation motivation, and the leader’s self−perceived ability to successfully affect large−scale events. Recent research has begun to apply these approaches to the study of terrorism. The review evaluates the methodological problems of each approach and makes suggestions as to ways of improving the clarity, precision, and predictive power of these methods.

(U) Cet article passe en revue les théories psychologiques et les recherches quantitatives qui visent à expliquer et à prédire les décisions que prennent les leaders nationaux et infranationaux. La déduction des intentions stratégiques des leaders se fonde sur une « évaluation à distance » de leurs processus cognitifs, motivationnels et émotionnels, aussi bien stables que changeants. Cette revue de littérature évalue des méthodes d’établissement de profil qui permettent de dresser un portrait de la personnalité du sujet en tant qu’origine des prédispositions stratégiques et des méthodes dynamiques, qui elles, mesurent diverses variables psychologiques prédéterminées, activées dans des situations particulières et à des moments précis. Ces deux méthodes identifient divers facteurs psychologiques qui sont corrélés à la tendance à adopter un comportement compétitif ou coopératif en situation conflictuelle. La méthode dynamique, plus particulièrement, peut servir à contrôler en temps réel les changements qui permettent de prévoir l’orientation de la prise de décision des leaders. Le déclenchement de la guerre, incluant les attaques surprises, est nettement associé à une diminution du niveau de complexité de la structure de traitement de l’information, à un désir accru de pouvoir par rapport au désir d’affiliation, ainsi qu’au niveau de confiance du leader en sa capacité d’influencer avec succès le cours des évènements de grande portée. Des recherches récentes ont commencé à appliquer ces méthodes à l’étude du terrorisme. Cette revue de littérature analyse les faiblesses méthodologiques de chaque méthode et propose des moyens d’en accroître la clarté, la précision et le pouvoir prédictif.

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(U) Adversarial intent; Forecasting; Indicators; Conflict; Leaders; Psychology